

HUMAN PERSONALITY AND ITS MINOR DISORDERS

BY

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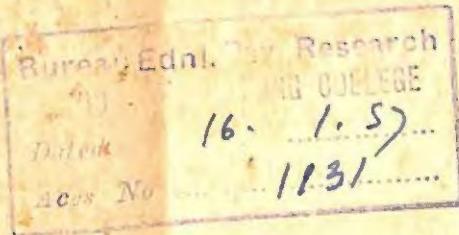
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MINOR DISORDERS



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Human Personality and its Minor Disorders

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A. H.

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FOREWORD

WHAT is written in these pages is a formulation of observations of personality function made on human beings, divided broadly into three groups.

First, those who, unable to carry the burden of living, had to seek admission to a psychiatric hospital ; second, those who had to come for psychiatric help while still supporting their life tasks, although inadequately ; and third, those who were facing the rough and tumble of life as being all in the day's work.

The formulation so arrived at is founded on the writer's training under Adolf Meyer, Professor of Psychiatry in the Johns Hopkins Hospital, Baltimore. Only with the instruction in the principles of personality study so gained could the observations have been made, and it is here that it must be stated that the writer's debt to Dr Meyer is an obligation covering the whole work.

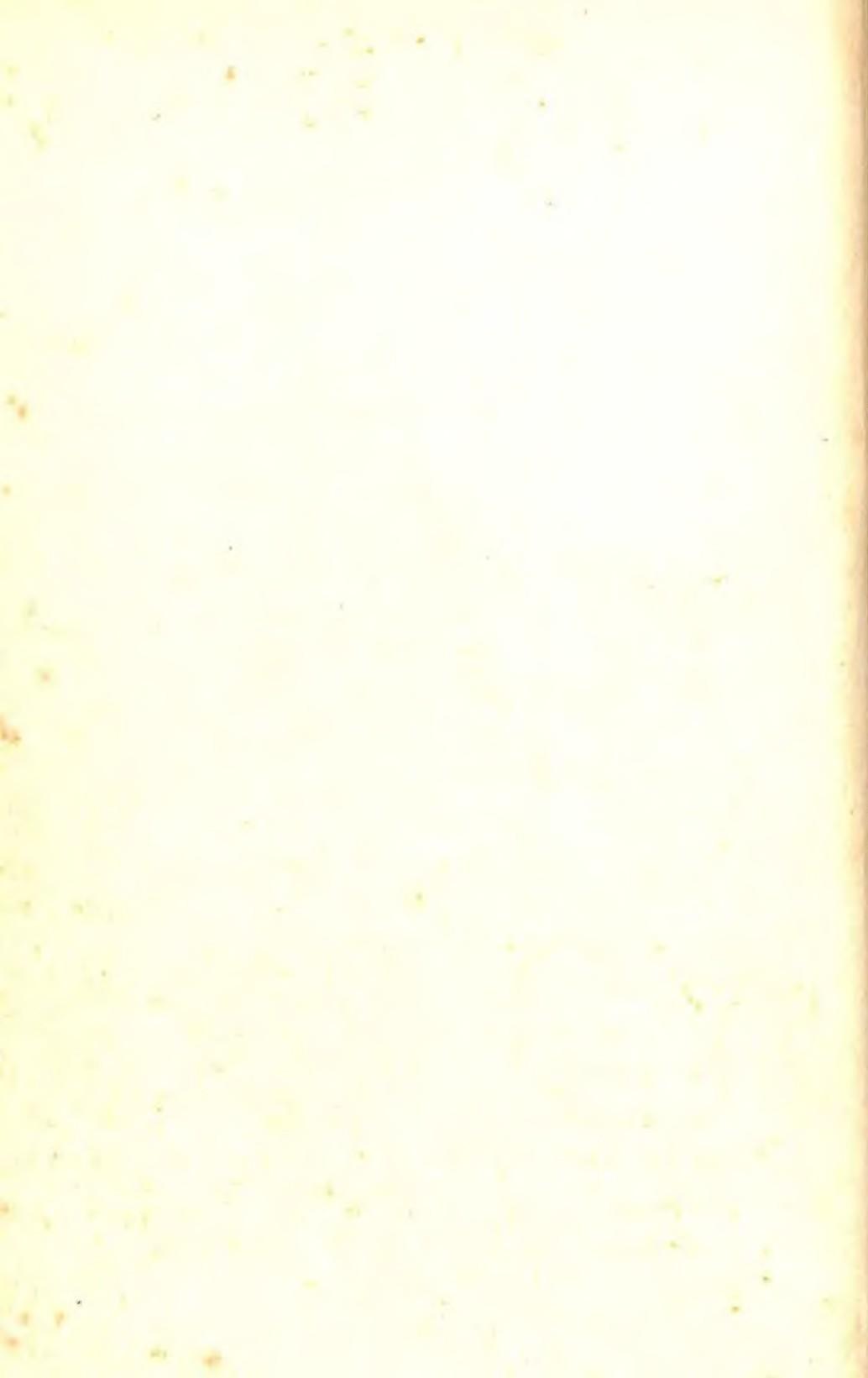
At the present time psychiatry, partly owing to the developments arising out of the recent war, is showing a tendency to occupy a rôle in which it is not so much too important as rather mis-cast. There is a tendency to make a neurosis out of every worry and perplexity that comes as part of the general business of living. The volume of psychiatric writing is great and increasing, and apology might be thought necessary for adding yet another book on the subject.

What is offered here, however, is an attempt to achieve three objects.

First, to provide for all who deal with living human beings a manageable concept of the concrete objective data of human personality as a whole.

Second, to establish the principle that psychiatric work of all types must be founded on knowledge of and experience with the personality study of normal persons.

Third, to emphasise the indivisibility of a living man and to make clear the supreme importance of studying the actual events of his living as a person in terms of non-dogmatic objective common sense.



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CHAPTER I

GENERAL PRINCIPLES OF ADAPTATION

"If we had the conscience of health rather than regrets after neglect, our whole question of pathology and therapy would turn into a constructive effort rather than into mere mending. This has its effect not only theoretically but would lead into a furtherance of preventive and creative thought so necessary for fundamental improvement of human and social and national life and reduction of the unhappy religious and racial complications and hindrances."—
Letter to the Author from ADOLF MEYER, 1947.

"No man is an Island, intire of it selfe : Every man is a peece of the Continent : A part of the Maine: if a Clod bee washed away by the Sea, Europe is the lesse, as well as if a Promontorie were, as well as if a Mannor of thy friends or of thine owne were : any mans death diminishes me, because I am involved in Mankinde : And therefore never send to know for whom the Bell tolls : It tolls for thee."—JOHN DONNE.

ALL living creatures must dominate or adapt to their environment. Failure to do this modifies seriously and may even terminate the life of the creature. Human beings enjoy no immunity from this obligation, and the unexampled complexity of human personality is the expression of obedience to this fundamental law of life.

Contemplation of this principle, once it has been rescued from its careless acceptance as obvious commonplace, at once picks out its three components—the creature, the process of adaptation, and the environment—and it becomes evident that these three are one.

This requires no elaboration, for it is clear that no living can occur unless all three are present. It gives a foundation, however, to go some way, as far as our limited knowledge allows, into a definition of terms. The word "adapt," to make suitable, from *ad*, to, and *aptare*, to fit or make suitable, yet originally derives from a Sanskrit root *AP* meaning "to reach," "to attain," "to fasten," "to bind," and is not different in tone from "dominate," originally meaning "to tame."

Adaptation is not an acquiescent yielding process, it is

an active stirring one where the individual is reaching out to bind himself and his environment together.

In the same way environment has to be considered. Strangely, this word comes from *virola*, a ring to bind anything, so that etymologically living creatures tend to bind themselves to that which in turn binds them. It would seem almost a mutual process tending to a high degree of close association. The concept, however, of environment in regard to human beings does not lend itself to simplification.

The elementary notion that skin and mucous surfaces form an interface between creature and environment has only to be regarded to be discarded. The contemplation of the events at secreting and absorbing surfaces makes it evident that no line of demarcation can be drawn. When, for example, does urine become a foreign body of fluid? When does food in the alimentary tract cease to be extraneous matter? What rôle does the air in the lungs play? Clearly there can be no answer to such questions as these and to the even more complex and further pushed queries as to whether in fact the blood cells are not "external" to the body. Common sense, thrown back on the verb in the first sentence of this chapter, at once perceives that the proper definition of environment is "that which calls for adaptation."

It is therefore clear that we cannot reify environment: it is not a thing but part of a process. A "fact" has been defined as "something which makes a difference," and from this point of view environment is an unlimited collection of facts calling forth adaptive responses.

Clearly the individual can only make adaptive patterns of behaviour if it has been able to receive some intimation of the event calling for adaptation. This can only happen by the medium of the sensory equipment of the creature. In human beings the adaptive capacity has been enormously added to by the development of devices for improving our sensory capabilities, and it is interesting to note that these have chiefly taken the form of apparatus for widening the scope of our so-called distance receptors, eye and ear, in the form of microscope, telescope, telephone, and so on. The significance of this obviously lies in the fact that the special value of distance reception is that it gives time for adaptation in a way that sensory receptors in the skin, for example, cannot do.

Setting aside the unnecessary wrangle regarding the exact environmental status of partially digested food, it is obvious that our sensory equipment is, when aroused, the starting point for adaptation to what may properly be called the external milieu; the external setting; the world at large.

We must also consider an internal milieu, originally described by the French physiologist Bernard and named by him the *milieu interne*.

All the cells of which the body is built up are washed and bathed in a fluid which is the carrier of materials for anabolism and the products of katabolism; bringing oxygen and nourishment and taking away waste. This fluid, as well as conveying these two elements, bears in it the secretions of the so-called ductless glands, those hormones whose complexity and number is being almost daily added to, which are of the highest importance for the metabolic processes.

This constitutes the internal milieu, and it can only vary in its chemical composition within very narrow limits or the functioning of the organism becomes seriously handicapped. The regulation of this is automatically carried out by what the American physiologist, Cannon, called homeostasis—the process of maintaining the same. This is the work of the automatic nervous system, the internal organs, and the ductless glands—but if it fails or comes near to failing, adaptive processes which can be objectively observed are set in motion.

Rats starving for calcium, because of glandular loss, found at once and constantly drank a calcium solution. A human infant, starving for vitamins A and D, selected from a group of foodstuffs unerringly that one substance which would supply its need. These were complex acts of adaptive behaviour in response to demands for adaptation by an internal milieu.

There is thus a setting where the adaptive challenge appears in terms of sensory stimulation and another where the adaptive need seems to appear through homeostatic requirements. It is as if we lived in two worlds and had to make the best of both of them.

To recapitulate, we may say that changes in the internal milieu are adapted to largely by chemical regulatory mechanisms working through the medium of involuntary muscle and gland function. From time to time, however, the adaptations so required demand activity on the part of the

creature in relation to the external milieu, as, for example, the calcium-deprived rats who had actively to seek, find, and ingest the needed substance. This is an example of adaptation in the internal milieu utilising the neuromuscular "voluntary" movement capabilities of the creature, as a phase of the total reaction.

On the other hand, changes in the external milieu are adaptively met primarily by neuromuscular voluntary movement, but physiological investigation has shown that where the adaptive process involves certain urgencies, generally described as "emotion" or "feeling," then changes in the internal milieu are set up as well.

Only where the problem of adaptation to the external milieu is solved is the accompanying change in the internal milieu adequately dealt with and harmony and balance restored. This is a matter of common knowledge and experience.

It should be obvious that the inner environment of tissue fluids and the external environment of events, sense-gathered, are meshed in with each other. It should also be clear that we have, broadly speaking, two main types of adaptive capacity—one working with smooth (involuntary) muscle and glands mainly directed to internal milieu regulations, and one working with voluntary muscle mainly to bring about actual movement for adaptation to an external milieu. These two types of adaptive response also are meshed in together, so that adaptive demands from either external or internal milieu can mobilise both.

To sum up, the four concepts of external milieu, internal milieu, "voluntary" neuromuscular response, and "involuntary" smooth muscle and gland response clearly cannot be separated. We may think of them as aspects, but we cannot think of them as "parts" or as "functions." All four have to be regarded as indissolubly blended together to form an indivisible unit—a living creature.

It is often said that Nature is prodigal, and especially in the botanical field this is obvious in terms of plant reproduction. One of the prime differentiations between the great biological groups of botany and zoology is the resource for movement of the organism. In the botanical division such movement as is not gravitationally and air-current determined depends on osmosis, the variation of fluid densities.

In the zoological division, however, we meet also movement in the space-time continuum assuming the striking character of locomotion in relation to the environment in terms of the meaning of the environment for the continuation of the life of the organism. Living creatures move towards situations interpreted by them as implying the continuance of living ; they move away from situations interpreted by them as implying the non-continuance or restriction of living.

This enormously important interpretative process can only begin in terms of the sensory assets of the creature. The movement can only occur in terms of the motor or movement resources of the individual.

This is where Nature, or, if it is preferred, the organisation of living creatures, shows a fundamental economising principle in respect of this, that confronted as individuals constantly are with competing sensory stimuli clamouring for adaptation responses, yet the movement constituting the response tends to be orderly and directed towards meeting the claims of one stimulus or of a group of stimuli having a common meaning. In this connection it should be clearly understood that as far as living creatures are concerned we have to use the word "meaning" of situation, stimulus, or experience as indicating the implication of adaptive behaviour inherent in the situation, stimulus, or experience in question. Obviously living creatures live in an environment where certain stimuli have an inherent and often local meaning not requiring previous trial-and-error experiments, and certain others, not valid in this way, have to be arranged in a system as part of the working out of a biography.

This economising and organising process finds its most highly developed level in man, and human personality is the expression of adaptation on a basis of economy and organisation as *subject organisation* ; the function of a life-story taking the form of an *experiment of nature* carried out by every human being in his own way.

Stated in its simplest form, which yet does justice to the facts, the motor resources of humans, consisting of the ability to perform the simple range of movements allowed by the skeleton and the muscles, are greatly less than the sensory claims on them, in respect of the fact that the sensory elements in the nervous system are vastly more numerous than the motor elements.

The effect of this overwhelmingly preponderant sensory pressure on the strictly limited neuromuscular mechanism, the so-called "final common path," and our only means of executing adaptive behaviour, would be to produce chaos unless some way were developed of screening out competing sensory claims. The studies of Sherrington on the integration of the nervous system made it clear that, from the simple spinal reflex level upwards, this does in fact occur. Pain, for example, has a priority on the final common path, as a fundamental and essential protection reaction.

Briefly stated, the organisation of living creatures and the particularly complex organisation of humans in their constant adaptive process, which is merely another name for living, shows throughout a tendency to economise in the use of the final common path, to spare it unnecessary work, and to use it to the best advantage for the biography of the individual.

So far it has been assumed that adaptation has been an affair of stimulus from external or internal milieu appreciated, and, after sorting out, acted on by the motor mechanism as a more or less continuous process.

As far as human beings are concerned this is far from being so. It is rather the reverse. Immediacy of action has a low level as far as true voluntariness is concerned. The hall-mark of human adaptive processes is that a sensation, stimulus, or experience is appreciated by the individual, is elaborated into a percept by the addition to it of memory and associative resources based on the life-history of the individual and endowed with meaning ; that is to say, with implications for objective activity and then the activity appears, but separated in time from the point of origin of the stimulus by an infinitely variable interval. In other words, it is in the highest degree typical of humans that they can react to stimuli in an immediate or in a delayed manner, thus enormously enhancing the efficiency of the adaptation. This constitutes the *segregation of stimulus and response*.

We are aware of this process because of a special capacity in our sensory and motor resources. We can speak or write, and we can see or hear speech or writing and endow it with meaning. In this way we share the living of the other man and we participate in his experiences vicariously, i.e., as a deputy, in a way that makes all other animal herd systems trifling.

It arises from this, that in the total environment of man "the other fellow" occupies a position both unique and of supreme importance in that he has a multiple set of meanings. Man has a meaning for other men—firstly, as he is objectively in the present and, secondly, as he can reach them through speech which gives him a meaning for them in relation to past and future ; furthermore, he can make them share in a "now" which may have no objective stimulus save as speech, e.g., in a telephone talk about a present emergency.

These observations are not the result of introspection ; they are the result of a sharing of past, present, and future between men through the medium of language.

Language is the paleontology of the human mind, and an unnecessary degree of mystery surrounds it. It consists of a set of sounds or of marks made or appreciated that have come to stand for or symbolise facts, from the most concrete to the most abstract, in an external or internal milieu (facts, things that make a difference, that have adaptive implications). Speech consists of symbols, and the whole language process can be well called the *symbolising function*. It can only be a means of enabling other men to share the living of the speaker or writer as of the past, the present, and the future.

In regard to the past and the present, the speaker or the writer translates into spoken or written speech a percept or percepts which are the result of the combination of his life-history and a specific sensory experience. Similarly, with future considering speech, percepts are constructed on the basis of experience patterns of a similar nature minus the active sensory event. This can be observed, re-observed, and confirmed so readily that there can be no doubt or mystery about it. Sensory events are appreciated and endowed with meaning ; memory and the resources of association of ideas come into play, and a percept is formed special to the individual and instinct with the spirit, tenor, and history of his own life and no one else.

This is so individual an affair that because of differences in "meaning" due to differences in life-story, probably no two people receive in the same way the impact of the same sensory stimulus, which is thus individual, and the same is true of percepts.

The plain man, however, knows very well that he has a mind's eye, mind's ear, and so on, and that his mind's eye constructs the merest sketches of what the original visual experience was ; and he also knows that meshed in with the mind's eye is a running commentary of inner speech readily made audible or visible.

Percept formation is best known as *primary symbolisation* and speech function as *secondary symbolisation*. The whole affair is that capacity to bring past, present, and future together as if they were all here now, and for one person to share it with other men. This is the general symbolising function, and it is the only function of living creatures distinctively human.

The essential characteristics of secondary symbolising function—the language function—are twofold. First of all, this function, meshed in and running along with primary symbolisation—percept formation in regard to past, present, and future—enables a human individual to make other human individuals share in experiences in which they have not actually participated. Secondly, it is a sort of universal currency of signs into which percepts of all types derived from, no matter what original source can be converted. That is to say, such widely varying adaptive situations *qua* percepts as, for example, homeostatic claims, mind's-eye sketches, and abstract notions, can all be given a form in terms of speech function and so socialised and shared. The importance of this for general adaptive purposes is at once evident.

The side-by-side progression of primary and secondary symbolisation naturally has to be carried along with the constantly advancing “now.” And as well as reacting to sensory impressions in the “now” with primary and secondary symbolising responses, the symbolising function as it refers to past and future may in part be lagging behind to work with associational material of the past and memory, or running ahead in fancies to elaborate primary symbolic sketches of a guessed-at future.

It is the mode of collaboration of these phases that constitutes the answer to the puzzle of the nature of consciousness, so long a subject of argument. Consciousness is probably not a thing which is there or not there : it seems an affair of *more or less consciousness*, which varies with the degree of

collaboration of phases of symbolising function in combination with the constant play of events in external and internal milieu and the immediacy or otherwise of motor response. Consciousness is an affair of what is doing. This hardly requires elaboration or explanation. Disturbances in the internal milieu such as hypoglycæmia or hyperglycæmia clearly alter the living of the individual to produce coma, a state where there is "nothing doing." A changeful setting of noise and bustle disturbs symbolising function. On the other hand, vigorous symbolising activity either primary or secondary may obliterate for the subject even the most clamant environmental stimuli. The plain man would say, "I can't think in this noise"; but he may also say, "I was concentrating so hard that I never heard the noise." The "more or less" characteristic is evident.

As the prime factor, then, in the process of segregation of stimulus from response, there exists the symbolising capacity of humans consisting of two parts: primary symbolisation, sensation derived and made up of percepts; and secondary symbolisation, the speech function.

The principle of segregation of stimulus from response has the obvious aim of allowing the individual to look well—before and after—he leaps. This is, and can be, nothing else but the fundamental inherent basic fact of biology that adaptation is, literally, "vital" and that it must be carried out as economically as possible; the creature's movement and action resources must be husbanded, the final common path must be as sparingly and as wisely used as possible. Man's symbolising capacity has enabled him to do this better than any other creature and has given him the position he occupies. It follows from this that the symbolising function is adaptive activity, special in this respect that it is implicit activity, a precursor of objective observable behaviour and movement; but it is so even at its most abstract as surely as water tends to find its own level.

Starting from the data of sensation, most usually arranged in complex constellations constituting experiences—for unitary sensory events are in living exceedingly rare—the symbolising function works with three elements. These are cognition, conation, and emotion.

Cognition consists of the capacity for organising, analysing,

and synthesising the data of experience ; it is, as a rule, identified with intelligence. Conation is the name given to the action tendencies of the individual. Conative drives which show great elaboration in human behaviour are generally assumed to spring from certain inherent action tendencies, the so-called instincts—tendencies to show full-fledged activity, complete and adequate, in a situation arising for the first time. Emotion, probably most properly bracketed with conation, consists of feeling tone agreeable to the individual or disagreeable to the individual and so reinforcing or interfering with conation. It is, in passing, noteworthy that the word "emotion" derives from the Latin *movere*, "to move." Linked with the internal milieu through glands and involuntary structures, emotion is fundamentally a regulative, directive function, and its etymology is well supported by the facts.

Looked at in this way, starting from the simple concept of living as an adaptive process, it is evident that experiences of events—firstly, in the external milieu as it changes and, secondly, in the internal milieu as it is influenced by external milieu and by the general process of metabolism and the actual neuromuscular adaptive movements—are interdigitated by the cognitive, conative, and affective assets of the individual working as symbolising function with percept or speech. It is, in short, the symbolising function with its special capacity of segregating stimulus from response which is the final integrator of the adaptive process which is human life.

CHAPTER II

PSYCHOBIOLOGY AND HISTORICAL BACKGROUND

IT is not surprising, therefore, that in his unceasing scrutiny of his world and himself, man devoted close attention to what has been here called the symbolising function.

He was only able to do this because of speech, itself part of the function. Without speech, scrutiny of the subject's perceptual processes and of the perceptual processes of others could lead to no accumulation of data. But the data did accumulate and very early in man's history assumed the rôle of an entity, separate and distinct, and belonging to an altogether different order from his sensations, his acts, and the support of his "body."

It may be that the word "scrutiny" is somewhat of a clue to this divisional process, for the word derives from the notion of examining fragments. Man cannot be fragmented : he is an indivisible unit, he is greater than and different from the sum of his parts because each and all of his capacities show such meshing-in that they are not only interdependent but can only exist because they co-exist.

In spite of this and of Aristotle's early warning that he could see no justification for separating "mind" and "body," the separation did occur. Various religions, pre-occupied with notions of soul, philosophy, and psychology in turn, took up the matter, and it became an established idea that man did not belong to Nature as far as thought and feeling went. The notion of "mind" as an entity, as a *noumenon*—something not perceptible by the senses—became widely accepted and led to considerable elaboration by philosophers and psychologists, in spite of the evident facts of purposeful human living as being indivisible from minding of some sort and the non-appearance of anything like a disembodied mind.

It would be merely historical and here irrelevant to recapitulate the various views about "mind." Broadly speaking, there have been four main developments : one along the line that "mind" and "body" were completely

separate entities, the so-called dualism ; another formulation along the lines of psycho-physical parallelism, a self-explanatory term ; and the formulations of idealism and materialism.

On one or other of these assumptions the great philosophers and psychologists of our era elaborated their views which have gradually permeated our culture, leading to certain ideas about mind held generally by the plain man who accepts them uncritically, knowing little of their origin and rather unconcerned as to their validity or practical application. It was all, to some extent, an affair of the university classroom and not of everyday living, but it finally became so ; and a way in which this happened was by a convergence of psychology and the study of mental disorder.

At the beginning of the nineteenth century, in France, Esquirol and Pinel took the first steps towards making the asylum a hospital and not a prison, and recorded their early observations on the phenomena of disorders of thinking and behaving. From that time onwards there developed an increasing interest in this matter. Inevitably, and rather reasonably, the interest was focused on description, on the prospects of recovery, and on the cause of the disorganisation.

This study, which came to be called psychiatry, since it had to do with *psyche*, mind or spirit, and *iatros*, a physician, then developed a huge literature of conflicting views and innumerable names. For many years, and even to this day to some extent, the foundation for psychiatric theories lay in the assumption that if brain was the organ of mind, then mental disorders must be due to brain disease. And while the unsuccessful search for a brain pathology to "explain" mental disorders went on, a large number of sound and capable observers continued, on a purely descriptive basis, to pile up a list of mental diseases due to some unascertainable cause or causes and to elaborate explanatory theories.

A little later, towards the last half of the century, attention was also focused on certain apparently "mental" disorders which, although they modified the behaviour of individuals so as to make them incapable of full harmonious functioning, yet did not so disturb their behaviour as to call for their being placed in mental hospitals.

These disorders consisted of the reactions now generally known as the neuroses : obsessional conditions, neurasthenic

fatigue states, semi-delusional hypochondriacal preoccupations, attacks of fear now called anxiety, and, most dramatic of all, hysteria with its paryses, disturbances of sensation, and memory blanks.

These conditions on account of their nature were to become dubbed as "functional," for it was assumed that there was no organic disease and the search for a *cellular* pathology was abandoned in favour of a search for a *psycho-pathology*. This search led naturally to the development of theories of mental function based primarily on observation of abnormal—or, at any rate, ineffectual and inharmonious—behaviour, but not to theories of mental function based on observation of effectual and harmonious behaviour. Such theories accounted for the idea of fatigue states being regarded as asthenia or weakness of the actual nerves, and so neurasthenia was born. States of tension and repetitive urges now known as obsessional states were thought of as an asthenia of the "mind," and named psychasthenia by Janet. In the same way, but more elaborately, Freud and Breuer made a number of observations on a hysterical girl which, on a basis of Freud's intuition—or so he declared—then became not only a system of psychopathology but a whole psychology.

Most significantly of all, during the early years of this century the practical and energetic organisers of medical education in America were impelled to recognise that the medical student must learn normal psychology before he could approach abnormal psychology. It was obvious that just as pathology demanded a knowledge of anatomy and physiology, so psychopathology demanded a knowledge of normal psychology. Psychiatry could then simply take its place in the field of clinical work based firmly on all that could be known of human function anatomically, physiologically, and psychologically.

It was at this point that the patiently evolved principles of Adolf Meyer formed the keystone of the arch that had been slowly forming between psychology, the offspring of theology and philosophy, and psychiatry, the child, although not a favourite one, of the biological sciences and of medicine generally.

Adolf Meyer, physician, neuro-anatomist, pathologist, and psychiatrist, was at this time Professor of Psychiatry at Johns

Hopkins, and in response to the bewildering question of what kind of psychology to teach to medical students, for there was an *embarras du choix*, he made the simple proposal that ordinary scientific method be used here also on a basis of common sense unhampered by common prejudice.

Scientific method so called consists of three phases : the first, observation of the phenomena whatever they may be ; second, the endeavour to formulate the laws in accordance with which the phenomena occur ; and third, the test of observation and formulation by reproducing the setting in order to see if, having done this, the phenomena will reappear.

Although the combination of observation, formulation, and test is claimed by science as its method of investigation, the fact is that the adaptive process, which is a synonym for "living," has always been carried out in precisely these terms. The plain man knows nothing of scientific method, but it is in terms of scientific method that he lives. He observes his world, he comes to some conclusions as to how it goes, and he tests this by acting according to his formulation of his observations.

Perhaps one of the most significant and important features of Adolf Meyer's suggestions at that time was that he did not ask for exclusion of what had already been done, in favour of any new dogma. His wish was rather to include all that could be used of what had come to be formulated as a result of previous work. All the psychologies and psychiatric views of the past could be studied but against a solid background, the background of the objective observation of human beings engaged in that process of adaptation which is living.

There had been previously two main trends. One was in the psychological laboratory, where isolated performances of sensory and motor function were being endlessly studied with ever-increasing elaborateness. The other was in the various medical settings where abnormal behaviour was being observed. In neither of these settings was the emphasis placed on the basic fact that when we observe humans we must try to observe the whole person, his life-story and his setting, if our observations are to be worth while.

It is interesting that the elementary caution of the plain man, who naturally observes the "doings" and the "sayings" of the other fellow to see if they "square" and acts accordingly,

is a reflection of this truth, and it was on this that Meyer insisted. It is to him that medical science and all the associated disciplines owe the first clear formulation of the need for founding the psychology of the abnormal on a psychology of the normal ; no physiology could even exist that had been deduced from pathology. And it is to him that we owe the concept of the need for a study of man as an indivisible unit.

Meyer laid it down that the starting point for such a study should be the observations by individuals of their actual living and adapting in specific situations and that this observation should be checked and balanced by similar observations made, by the same individuals, of others. In other words, the plan of action was to observe, formulate, and test all the appreciable data of total human behaviour that can be readily "got at" before going any further. These data consist of nothing more or less than the sensorimotor assets, the supporting general metabolic processes, and those features distinctively human, namely, percept formation and its sharing out by means of speech, all working together in the formation of the life-story of a human being.

This study of the whole man was given the name of *psychobiology*, a term which served to emphasise the special rôle of percept and speech function as a factor in the organisation of the total biology of man as a continuum of adaptation, not merely isolated and *ad hoc* performances.

The late Professor of Psychiatry at Harvard, Macfie Campbell, one of the wittiest and most gifted members of the specialty, once declared that "Psychiatry and Dermatology have tended to remain rather long at a purely descriptive stage and have accumulated in the process an interesting but somewhat unhelpful Greek vocabulary." Psychobiology, however, has added but one "technical" term to the language of everyday, and that word is *ergasia*.

The word was added to our vocabulary in order to fill a gap in the nomenclature in regard to behaviour. "Behaviour" has no plural, forms a clumsy adjective, and is associated with the special doctrine of behaviourist psychology. *Ergasia* means behaviour, but it was used by the Greeks to subsume every type of activity of which humans are capable from abstract thought through "doing" down to such flatly metabolic functions as digestion, which Aristotle speaks of as

an ergasia of the stomach. Ergasia can therefore be used to sum up in one word the total behaviour of an individual in the psychobiological sense.

It cannot be too strongly insisted on that as man actually lives as a process of environment adaptation he lives as a whole, not as a mere sum of parts or as single functions operating alone, now one, now another. Respiration, as Meyer says, is an affair primarily of oxygen and carbon dioxide exchange, but we cannot exclude the lungs, the respiratory muscles, their neural control, circulation, and the whole life setting of the breather.

It has been already stated that adaptation or living is a set of events running in a sequence, the beginning of which is sensation and the end of which is movement, overt, or implicit. These events cannot occur without the smooth continuous functioning of the nervous system, which is thus an integrating mechanism. In consequence of the clear importance of this there has been a tendency, naturally stimulated by the advances of neurophysiology, to explain human behaviour in terms simply of the working of the nervous system or to attempt to restate the facts of living in terms of supposed frontal lobe or hypothalamus function regardless of the long and unavailing search for a brain pathology in psychiatric disease. Nevertheless, there are certain fundamental facts that should be borne in mind.

The first of these is that the action of the nervous system, even at its simplest level of spinal reflex action, shows variations of response in terms of the biography of the creature and its situation. Stimulation of the same nerve may lead now to flexion and now to extension of a limb in the "spinal" dog. The second is that the nervous system may be regarded as having between the two channels of sensory inflow and relatively smaller motor outflow an enormous quantum of connector material offering an infinite number of routes from inflow to outflow. Here must occur the previously mentioned segregation of stimulus and response.

This segregation when it works in terms of symbolising function has the prime effect of allowing action to take place with the optimum economy of motor resources and at the optimum time. It is the expression of symbolising function working as percept (mind's eye, etc.) or speech visible or

loud or silent, intimately worked in with percept, and it has been developed in man *pari passu* with the development of the cerebral hemispheres generally and not only, as was supposed, by the development of the frontal lobes. It is, in other words, the product of the enormously developed connector neuronic resources in man, just the very elements of the nervous system known for long as the fundamental integrators of that system.

The nervous system is an integrator, and within it is an inner integrator in the form of the connector material. In man this connector material works with percept and speech to do precisely what the simpler connector material investigated in the spinal dog does, namely, to integrate stimulus and response. But the connector material serving symbolisation not only integrates stimulus and response, it segregates them so as to postpone integration of the sensorimotor arc involved, whatever it may be, until the optimum time.

In view of the long-established understanding of the nervous system as a hierarchically integrated organisation, it is obvious that the supreme level of the hierarchy is the cerebral connector material. The symbolising capacity working with percept, memory association, and speech allied to the cognitive, conative, and emotional assets is a function of this material, and it comprises what is generally called "mental."

It is thus quite simply evident that what we call "mental" is a kind of behaviour distinguished by the greatest degree of integration—of wholeness—of which we are capable. We can therefore speak of *mentally integrated behaviour* rather than of "mind" or "mental," and when we do so we mean that through the symbolising function of cerebral connector material a degree of wholeness of function is achieved that is possible in no other way and which has as its hall-marks economy of action and the telescoping of past, present, and future.

It is interesting to notice that the brain has been spoken of as the nerve centre of the distance receptors, eye and ear, those receptors that allow time for adaptation. As an extension of this, the symbolising function chooses the best time for adaptation. When the plain man says he did something involuntarily, he means he did it immediately, and there lies the root of the matter. Symbolising function mediates action, times it correctly, removes its immediacy and its involuntariness gives it as high an adaptive value as possible.

Everyone knows that any hierarchical system which is efficient consists of a set of levels of delegation of increasingly large responsibility as one ascends the hierarchy, and that the total organisation is quite a different affair from what would be produced by merely adding together the various departments. So it is with human organisms. The plain fact is that the supreme level of the hierarchy dictates policy, and policy is an adaptive process involving judgment of the present in the light of the history of the situation and of estimates of the future based thereon. It is a restatement of scientific method, so called. Even at the lowest spinal level, by means of the work of the connector material we see the phenomenon of "situationally" evoked spinal reflexes as a result of the well-known "bahnung" process in the neuronic connections—a sort of blazing of a trail.

At the highest level, however, mere "bahnung" gives way to the play of associational processes of immeasurably greater complexity but of fundamental similarity, and with the difference that it can bring past, present, and future together, thus controlling policy and ensuring a wider, non-immediate environmental adaptation.

It is a matter of common knowledge that in any well-run organisation the supreme level allows considerable latitude to the lower levels but can at any time step in anywhere. Conversely, upper levels in a hierarchy can supervise a lower level until it can be trusted to carry on. Both of these phenomena can be endlessly illustrated in human personality, but the simplest examples are found in the alteration of already learned skills and learning of new motor skills, significantly variable from person to person.

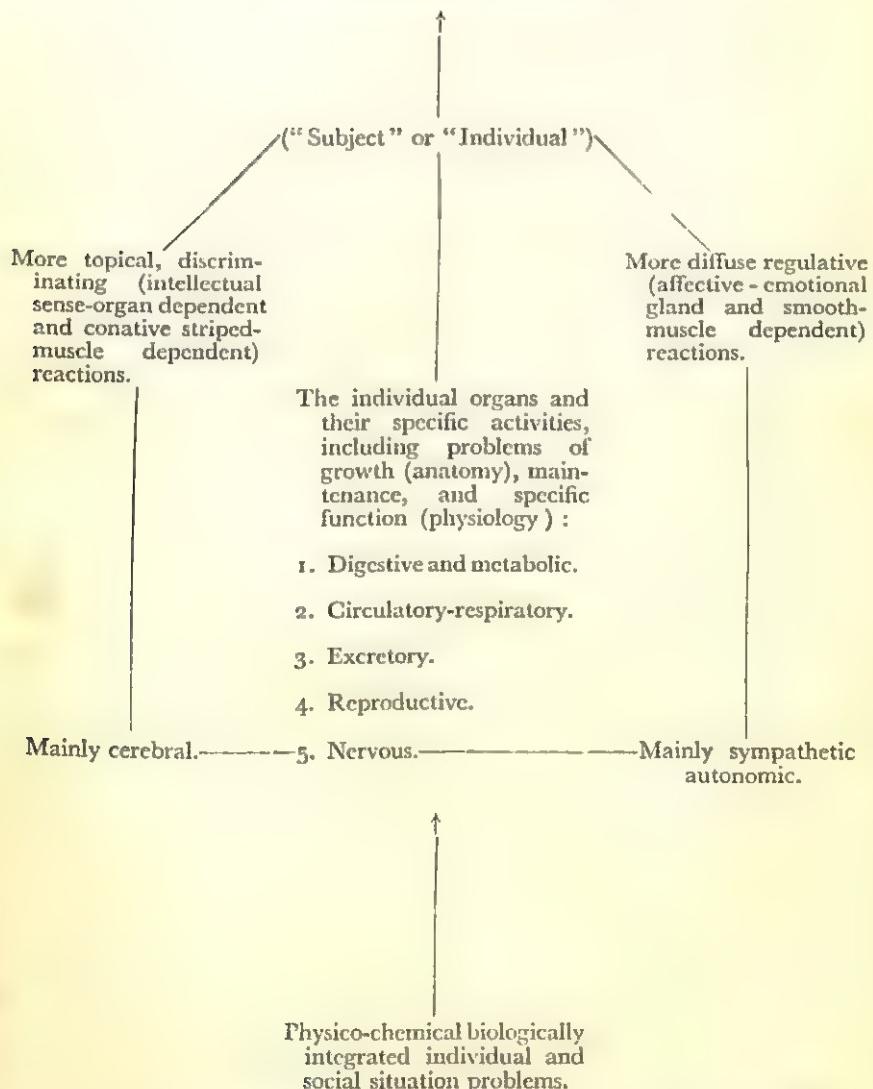
At the same time it should be obvious that a hierarchy cannot operate efficiently unless it is "all there." There can be no policy unless it is laid down, and it is useless to lay it down unless it is carried out.

It is in this way that the organisation of personality occurs as a result of the *mental integration* (*vide* schema opposite) of all the life processes, physical, chemical, anatomical, and physiological, into an ergasia, a working of everything in a human being that can work at all. These facts put an end to ideas of mind and body as in any way belonging to different orders. Respiration is not digestion, symbolising function is not renal

function, but they are all found in an actually living man in a wide system of mutual influence.

SCHEMATIC REPRESENTATION OF PERSON ORGANISATION (MEYER)

PSYCHOBIOLOGICAL PERSONALITY



We see, therefore, that the puzzle about mind should not exist, for "mind" does not exist as a noun, it is rather the verb "minding." Instead, we have in living human beings

a mechanism for knitting up together in a life-history, sensation and movement and the support of the body in metabolism. This is mentally integrated function, and it works, as has been repeatedly stated, fundamentally with percepts, built out of sensation, constantly translated or translatable into the short-hand of speech and bearing in it the knowledge, the strivings, and the feelings of the individual.

The ebb and flow of mental integration is constantly changing. Now this function is going on, non-mentally integrated, and now mental integration steps in : e.g., driving an automobile in traffic and talking to a passenger, and now still talking to him and watching a traffic light, and now not talking to him and shifting gear so as to pass a truck, because one knows just how much acceleration is required, passing the truck and then back to the talking again while still driving the car.

Even functions formerly regarded as highly "automatic" now appear to be accessible to mental integration, for it has recently been demonstrated that humans can "learn" to contract their pupils at will. This fact indicates the extent to which this highest level of integration is powerful and also suggests that we do not yet know its limits. As sleep comes on, all this dies down to a variable extent, and with waking there comes, as Meyer says, a geyser-like spout of this activity again. Sherrington speaks of it as if there were the turning-on of a myriad lamps in addition to the constantly twinkling points at the respiratory and cardiac centres.

Humans only enjoy their supreme adaptive capacity, such as it is and as far as it goes, by virtue of this capacity for mental integration. It is somewhat arresting to note that our word "man" comes from the Sanskrit word *man*, to think, and that "mind," "mental," "memory," and "meaning" all come from this root as well. Evidently, as far as the Indo-European language group is concerned, man's characteristic is that he thinks, and we have seen that thinking is just an integrating process with special reference to orientation in a space-time continuum and having the plain straightforward end of procuring as good adaptation as possible now and in the future.

This should be the study of all who work with human beings. It is the study of the whole man. It asks for all we can know of anatomy and physiology and finds a place for

all we can know of these in the setting of mental integration. Psychobiology or ergasiology would be, then, the all-inclusive study of humans, but not humans apart from the actual business of their living in their environment.

The principle of segregation of stimulus from response for economy and efficiency of adaptation by means of symbolising function is a simple one. It makes it clear that what is generally understood as thinking is, even at its most abstract, a forerunner of objective activity.

The adaptation to environment, both external and internal, is a continuous process from the cradle to the grave. The physiological functioning of the individual can deal with adaptation problems in an immediate present only. This is not effective enough for adaptation problems of wider scope, and so man has developed a capacity for an adaptation technique in which all the assets of the individual can be varyingly controlled so as to keep the sense of the context of the life-story and preserve the continuity of movement towards goals. This technique is mental integration working with symbolisation as percept-speech which have "meaning," i.e., implications for future behaviour.

A word is necessary regarding percept. A percept is regarded here as the elaboration of a sensation or more usually of a group of sensations all coming together to form an experience. Now, the formation of a percept out of its raw material of sensation or experience is an affair of the total individual. He brings to the formation of the percept all that is in him and all that has come to him from his past setting. In consequence of this, mentally integrated behaviour is dependent on percept formation which is carried out by appreciation, discrimination, association, orientation—constructed on a basis of the resources of intelligence, will, and feeling which the individual owns.

This is the basis of the psychobiological action phase, and with it the individual organises his adaptation to environmental needs with the special addition of the notion of goal. A moment's reflection shows that the organisation of personality in terms of delayed action for better goal achievement can be seen to be a developing process if one considers the contrast between the immediate world of childhood and the future-considering setting of the mature personality.

Living, then, is adaptation, and in man it is mediated by symbolising function, a special method of routeing stimulus over to response so as to allow all the assets of the individual—his physique, his setting, his history, and his goals—to play their part in determining the response. It is a means of utilising to the full both the immediate and non-immediate reaction resources of the individual, thus serving efficiency and economy.

Living, considered as adaptation, is behaviour, and if, as is claimed, psychology is the science of behaviour then psychology must deal with the whole man, with his physics, chemistry, anatomy, physiology, as well as with the symbolising function integrating them.

It is out of percepts that is built the whole nexus of mentally integrating resources, the action potential of the individual. They are the foundational basis of the shaping of the personality; it is with them that cognition, conation, and affect work in the constantly forward movement of the individual who is making personality and biography at the same time.

This is so obviously true that "normal" psychology can only be a pluralistic, plastic, and dynamic approach in the most common-sense and objective manner of which we are capable to a whole man who is actually doing, working, adapting. The extra knowledge we gain because he can make us share in his past and his future and his fancy by the exercise of speech function is only accessory knowledge, it is not the whole story. We must study what is observably going on or, at any rate, get examples of what is liable to go on.

On the basis of this approach and scrutiny of ergasia or mentally integrated behaviour, there can be constructed a concept of normal personality in a manageable form. It cannot be complete, but what there is of it will be easily ascertainable fact. It will form a foundation and a starting point for all who have to deal with live human beings who are adapting well or who are adapting ill.

In Meyer's own words, "We must discourage the ever-lurking interest in the occult and semi-occult and replace it by solid confidence in reliable methods and by determined interest in matters obviously calling for serious objective study."

CHAPTER III

INTRODUCTION TO PERSONALITY STUDY

GENERAL SURVEY

THE readily ascertainable fact is that human beings adapt themselves, well or ill, to environmental demands and attempt to dominate their environment by making it yield goals and satisfactions—"the pursuit of happiness" of the American Constitution. This fact has always been perfectly well known to the ordinary man. He has, as a rule, had the idea that in some way his "mind" stood behind his "doing," rather inseparable from it. Translated into the terms of psychobiology or ergasiology, this amounts to the intellectual, the striving, and the feeling capacities of the individual together with the metabolic and flatly physical resources all working as a unit in a system of delayed reflexes where the delay-action is the product of primary and secondary symbolisation leading to three added qualities of adaptive value : (1) socialisation ; (2) economy ; (3) efficiency for long-term purposes.

This mechanism does work, as far as the plain man is concerned, and on the whole it works well far more often than not, and he is satisfied. No one wishes to pull his automobile to pieces unless it goes badly ; but no motor engineer could help in trouble unless he knew how a motor should normally behave. Anyone who has to be concerned with humans *per se* as a specific life task must have a knowledge of the range and scope of the normal, that is to say socialised, living which is productive of satisfaction not only to the individual but also to the culture in which he lives.

In order to do this there are, in fact, two requirements. The first is that anyone taking responsibility for human beings cannot escape the necessity of having a knowledge of the structure and function of the actual tangible mechanism, and this, of course, amounts to medical training. Medical training which left out all of human personality would be grossly incomplete, and we have ample evidence of this in

the repeated injunctions of wise clinicians who have always adjured their students to treat the whole patient. The converse is obviously also true. Anyone taking responsibility for humans must be able to take responsibility for the whole man.

The second is that the structure of personality must be studied, and studied in the normal subject with the same thoroughness and detail as was devoted to the fundamental disciplines of anatomy and physiology. The systematisation of this was carried out by Adolf Meyer in his scheme of Personality Study.

The method employed for the use of this study was that each student should go through the scheme in detail, keeping a written record and making it an essential of the task to keep parallel with it an estimate, detail by detail, of three dissimilar individuals well known to the subject, thus ensuring objectivity.

Obviously such a systematic study of a human personality in action must form the only possible solid *point de départ* for the later scrutiny of other individuals. It bears the same relationship to actual clinical work with psychiatric material as anatomy and physiology do to clinical work in surgery and medicine. Only by thoroughly carrying out the personality study can an individual develop that proper sense of the range and variation of the *normal*, so essential to the maintenance of a proper attitude to those who come for help.

It should be understood that the commentary on the details of the personality study which follows does not aim to be a dogmatic formulation in any sense. It is rather merely a scheme of approach which should form a basis for the approach by others to this scrutiny, each in his own way, in accordance with the wide and flexible frame of reference of general psychobiological function.

DETAILED PERSONALITY STUDY

GENERAL SURVEY

Under this heading the first requirement is an objective and moderately detailed autobiography concerned specifically with the four main departments of ordinary human life, namely :

(1) The occupation or daily work of the subject ; (2) recreations and hobbies and interests; (3) organisation of inter-personal relationships, including sexual ; (4) general physical health.

Together with the written account under these headings it is useful to arrange the developments in graphic form as a life chart, an example of which is given on pages 250-51. The truncated tapered shape is tribute to the idea of a point of origin which cannot be sharp at the moment of birth but which is yet a level from which growth and development are going to take place. The tapered figure is vertically divided into four to correspond with physical, occupational, leisure, and social aspects. Disturbances in the adaptive capacity of the individual making their appearance are marked by hatching, cross-hatching, and blacking out roughly to correspond to the severity of the adaptive handicap. The markings on the chart correspond to annotations arranged by arbitrarily placing occupation, recreation, and social orientation at the right and the non-mentally integrated or purely physical performances on the left, where also is placed the sexual development and data in view of the status of sexuality as only partly mentally integrated.

For convenience, transverse lines indicate the calendar year and the age of the subject.

This arrangement enables one to see at a glance the extent and distribution of occurrences in the life-story and their effects. It should always be borne in mind that in studying personality we are, in fact, studying an "experiment of nature" (Meyer), one purpose of which we can see, as far as our limited vision allows, is the organisation of the personality by adaptation, for adaptation. This being so, the first object of attention should be the actual "doings" of the individual, for only in this way can we get objective and reliable information as to actual action tendencies and their result.

Work definable as Jobs and Regular Duties and their Successes and Failures in the Past and at Present : (a) of Self-support ; (b) of Study ; (c) Daily Routine and Habits of Personal Care and Appearance (carefulness and regularity as to toilet, etc.).

It is obvious that the core of individual action is the principal job or duty of the person, and, as a rule, this corresponds

to the occupation providing the means of self-support or its equivalent. It is round this that the daily action pattern of routine programme is laid down in regard to the accessory and associated performances of the everyday. Obviously a knowledge of these events and their more or less success establishes a starting point which consists of a set of objectively ascertained confirmable facts. It is noticeable that around the "core" of activity concerned with the chief job or business of the individual there exists a group or constellation of associated activities. These are the items of the daily routine of the individual, and they may add to or detract from the efficiency of the main job. They may be said to consist of the habit stock or resources of the person. Their importance for personality development and adequacy lies in their supportive character, their value in furthering subject organisation, and their high potency in the direction of reducing energy output, thus relieving the full power of the individual for tasks where pure routine habit cannot take care of the required performance. The whole story of the organisation of the nervous system confirms this principle, for there everything that can be made so is automatic. Stated in yet another way, habit is, with language function, one of the great economisers of energy. Thus it is that the details of regularity in daily routine are valuable preliminary data for evaluation of personality, understanding, and guidance.

Recreations : Hobbies—creative and artistic efforts—Sports, Amusements ; Favourite Authors and Books. Why preferred ? Suggestive of Traits for Investigation ?

From these facts similar data can be gathered as to the action tendencies where gainful occupation is not the driving force, and these constitute the hobby and recreational activities, whether active as in sports or relatively passive as in reading. Here, again, we get a set of objective facts valuable and interesting in respect of their capacity to elaborate the information obtained under the heading of vocation. For example, there is an obvious significance for the general harmony of the personality in similarity or dissimilarity between vocational and avocational types of activity and, of course, a significance of its own in the nature of the avocational activity, quiet or lively, active or passive, creative or not.

Inevitably, in view of the spontaneous nature of avocational activity, it provides pointers for investigation in a way that scrutiny of vocational activity, which by contrast is largely obligatory, does not do. These two sets of facts, vocational and avocational, provide, however, foundational solid information as to behaviour which is readily amenable to the observation, formulation, and test by repetition of so-called scientific method.

The Social Activities classified as : (a) Time and Type of Attention given to Family (including responsibilities and dependence); (b) Social Connections (time and attention given to actual friends—formal relations, actual responsibilities, and dependence), Sports and Fraternities. How active? (c) The Religious Connections (probable reason for special choice, degree of dependence, and responsibilities assumed); (d) Interests in Schools and Education; (e) Political and Civic Interests.

These activities naturally can only take place more or less in a setting of other humans. Attention consequently has to be given to inter-personal relationships represented by family, friends, organisations, civic and political interests, moving from the restricted contacts of family life up to the wider and more abstract contacts in group activity and preoccupation with politics and political practice and theory. The principle for which one is looking is the principle of mutual dependence and support, inherent throughout in all a person's relationships with other people. Naturally dependence and support are easily observed in the practical direct issues of family life, and an estimate can be made of the extent to which the individual is either largely dependent on others or largely supportive or strikes a balance. It can also be observed whether or not this standard is carried on into other human relationships in the same proportions, or if dependency or responsibility increase or diminish. This can usefully be directly queried as to why it should be so.

From these three sets of data—vocational, avocational, social—one can infer or get direct expression about positive and negative interests in the form of strivings and ambitions, or aversions and idiosyncrasies.

Interests, strivings, and ambitions expressed by or inferred from the above; also aversions and idiosyncrasies.

The basis of an understanding of these features is inherent in the word "interest." This word is a Latin one of complicated derivation whose fundamental meaning, however, is in *inter*, between or amongst, and *essence*, being or quality, derived from the verb *esse*, to be, and resting on the Sanskrit base of *AS*, to be. Patterns of behaviour where there is interest are situations where the adaptation and performance is the product of the whole personality in there in action. Inevitably these situations of interest and ambition, if properly scrutinised, give valuable information which can form the basis of a fuller understanding. Conversely, lack of interest or aversion indicate the non-participation or absence of the individual, and the same queries would have their usefulness.

It should be noted that this item of inquiry goes much deeper than the mere, "Why do you like doing so and so?" or "Why do you dislike doing so and so?" It is not a question of liking or disliking but of the extent to which the general adaptive (*i.e.*, living, functioning) capacity of the individual is stimulated by the situation in terms of primary symbolisation and possible goal. The interesting colloquial confirmation of this is afforded by the present slang phrase, "There's no future in it." This phrase has two meanings. By its very wording it indicates that the proposition is in effect not going to lead to anything, but its primary meaning to-day is that the person using the phrase is not interested in the proposition in question.

The Temperament (ingoing or outgoing, active or passive, expressed in terms of specific habits and action, moods and disposition, and behaviour in characteristic situations).

It is, in fact, the relationship between interest and ambition on the one hand and aversion and idiosyncrasy on the other which affords an insight into the question of temperament. The categories of ingoing, outgoing, active, passive, or the more popularised extravert, intravert concepts, meaning the same thing, tend to be accepted on their own merits. Actually, however, it is clear that the so-called temperament depends

on the way in which the interests, positive and negative, have been organised. This in turn is the product of adaptive capacity leading to activity or passivity, and is not a cut-and-dried entity but a developing feature of personality as the life-history is worked out.

In regard to the question of temperament, scrupulous care must be taken to obtain evidence of actual situations. Nothing else can take the place of this, and the illumination afforded by actual examples taken from the daily life is immeasurably greater than the application of a mere adjective such as "outgoing" or "passive" without adequate factual backing.

The Ratio of Perception, Dreaming, Thinking, and Action (i.e., overt and implicit activity),

An effective way of obtaining data in regard to the level of mood and disposition lies through an inquiry into the ratio between thinking and acting. Generally, an estimate of this ratio can be arrived at, from which point it is possible to ascertain the mood or emotional tone accompanying either implicit or overt activity. It should be stated that no pre-conceived notions should be allowed here, for there is a strong native tendency in people to assume that overt activity, usually more directly biologically valuable, must be accompanied by pleasurable feeling tone; this is not the case any more than that implicit activity or day-dreaming is always pleasant.

Wherein do you find your maximal composure?

The operative query is, in fact, in regard to the *situation* affording the individual his maximal composure. The word "composure" actually has come from the idea of pausing or resting, and in this inquiry the search is for the situation of greatest peace and ease. Naturally such situations not only vary from individual to individual but change in their nature from time to time in the same person. Fundamentally one obtains, in the description of the composure situation, a recapitulation in miniature of the interests and aversions as well as an idea of the individual's tendency to tension. For example, such contrasting composure situations as driving

an automobile, walking out of doors, or reading in bed all have their specific evaluative usefulness, and these are common examples.

Review the above facts in the light of a satisfaction formula.

The consideration of rest naturally passes over to the question of activity leading to the rounded-off experience of achievement. Viewed even from the widely different angles of various schools of thought, it is evident that the general adaptive process of life is a matter of a series of points of adaptive success. It is an equilibrium which is constantly being established and re-established. These episodes of equilibrium can be formulated as "resting points of satisfaction," incidents where the individual has been "filled up." Rather an exact inquiry can be carried out into satisfaction by the application of Meyer's "Satisfaction Formula" arranged in this way :—

$$\begin{aligned} \text{Satisfaction} &= \frac{\text{Performance and Mood}}{\text{Capacity, Opportunity, Ambition}} \\ &= \text{Vision of Ultimate Attainments} \\ &\quad \text{and Appreciation by Others.} \end{aligned}$$

Arranged in this way the actual adaptive performance, *i.e.*, work done, and the spirit in which it is done, are seen as numerators (quantitative), and the individual's estimate of ability, chances for the expression of the ability, and wish for expression appear as denominators (qualitative). The operation of these, *vis-à-vis* the imagined goal for its own sake, and for its reward in social approval produces a temporary resting point of equilibrium in the otherwise continuous adaptive continuum, and this constitutes more or less satisfaction. Viewed thus, the actual performances can be analysed in terms of the elements of which they are composed. For example, failures in satisfaction are commonly seen as a result of discrepancy between capacity and ambition, and the same thing is true of similar discrepancies between other elements in the formula.

For purposes of investigation the formula is best scrutinised or resolved into its components by approaching it from the description of maximum satisfaction. It is generally possible

to get an example of such a situation, and, by examination, the rôle of the various elements can be ascertained. The incorporation of the notion of approval by others of the attainment necessary for satisfaction is of great importance. Total human behaviour, *i.e.*, mentally integrated behaviour, is so bound up with language that its social quality is an essential part of it. It needs no emphasis, and hardly even re-statement, that the relationship between the individual and his setting of other individuals is of paramount importance for peace of mind, personality development and, indeed, security. The whole organisation of society from mating and family formation up to political and national groupings shows this clearly. There is, in fact, such a drive in this direction that we have proverbs such as "There is honour even among thieves."

What estimate do you think others make of you, and what are you in reality? What do you expect of life, and what of yourself as a personality? (Test of objectivity.)

The harmoniousness or otherwise within the personality of the principle of mutual dependence and support in relationship to society therefore inevitably depends on the balance between the individual's estimate of himself and the estimate of him which he thinks others make. On this point concrete evidence must be rigidly sought for. The estimate of an individual by others, in spite of all complexities, still depends finally on concrete objective performance. The estimate of an individual by himself does not so depend in all cases. At the same time the situation is that there are two ratings of the individual, one by himself and one by members of the group in which he moves. It is a commonplace worth stating that the social rating and the personal rating of the individual seldom correspond, and that either one may be the higher. Although the social rating depends largely on past performance, at the same time an estimate of an individual's potentialities may be made by members of his group, teachers, colleagues, etc., which gives him a higher rating than he would give himself. The converse may also occur. Furthermore, the two respective ratings may depend on an underlining of two different sets of characteristics by society and by the

individual. It is, of course, out of this that the person who is "misunderstood" comes to get into that rôle.

Harmonious personality organisation naturally, in regard to this item, leads to an approach of social and personal rating to about the same level. Clearly the individual who feels he has, more or less, had his due from life and his fellow-men is in a state of balance. Where there is felt to be less than or more than the due this is inevitably accompanied by a reduction in that identification with the community towards which all socialised creatures strive.

This applies in just the same way to the individual's expectations from the chances of life and from his own capabilities. A well-known psychiatrist once declared his regret that adolescents could not safely be told that pure chance would influence their fate in life. This would be better stated by inviting the adolescent to recognise frankly the rôle of chance and his own chances of modifying it.

Basically this whole query is a test of individual objectivity, of the ability to focus and insist on the value of actual performance, because this is something which has an approximately similar value for performer and observer in regard to the valuations of the performer by himself and by society.

In order to put the facts in proper relief by comparison, review the points that characterise the three most different classmates and see how the facts can be brought to terms of characteristic concrete performance, and which of the topics of the preliminary survey would best bring out the characteristic distinctions.

The foregoing items may now be brought to a special type of test by describing the three individuals most markedly different from the subject. This task, obviously involving considerations of similarity as well as difference, compels a sharp focus by the individual on himself as it were, by reflection and comparison. Constantly, painstaking execution of this scrutiny reveals unexpected lines of self-evaluation on account largely of a re-evaluation of the personal qualities forced on the individual when the obligation of comparison is laid upon him. In addition to this there is also the appearance, on this comparative basis, of the reasons for the differences in this way appreciated by the subject. Very frequently the preceding

items of this general survey present themselves for re-statement in the light of this comparison. It seems as if the general drive for identification with the other members of the group or community not infrequently produces notions of similarity and difference accepted uncritically and subject to drastic revision when brought to objective test. The result, of course, is a highly useful check.

CHAPTER IV

SPECIAL ANALYSIS OF THE PSYCHOBIOLOGICAL ASSETS

DIFFUSE REGULATIVE (AFFECTIVE AND EMOTIONAL) TENDENCIES

EVERY event of human behaviour has components of thought, feeling, and action. The principles of cognition, affection, and conation are indissolubly bound up with each other and cannot be isolated for examination save to a limited extent. It is useful, however, to strive for a formulation and a definition which, inevitably imperfect, serves as a basis for future study.

The words "affect," "emotion," and "feeling" are interchangeable and synonymous. Etymologically, each of them has in it the idea of action. "Affect" is derived from *ad* and *facere*, and implies doing something at—a situation, event, etc. *Facere* comes originally from the Sanskrit "to do" or "to put." "Emotion" is derived from *e* and *move*, as has already been stated. Even the word "feeling" has been elaborately traced back *via* "palpable," to the idea of quivering, trembling, or palpitating.

This is fundamentally in the thinking of the plain man when he says, "How does it affect you?" He means two things—first, "How does it make you feel?" and second, "What are the feelings so produced going to urge you to do?"

It has repeatedly been stated that living is a process of adaptation to environment or domination of it. In everyday language human beings either cope with environment or "fix" it, as Americans say, so that it needs no more coping. The process of adaptation becomes progressively more complex as the environment becomes more complex. Originally, however, adaptation occurs in terms of inherent needs, and this is, of course, the background of what is generally accepted as instinct. However elaborate behaviour may become, it can only be the offspring of such inherent tendencies, modified maybe out of all recognition by environment.

Where adaptation is proceeding smoothly, or appears to the subject to be proceeding smoothly, to a goal of satisfaction, the process is accompanied by a certain subjective feeling. It does not really take us any further if we try to give this feeling a name. It is simply the feeling which accompanies adaptive success as the subject sees it, overt or implicit, immediate or delayed. Basically it is the feeling accompanying satisfaction of a trend.

The converse is equally true. When adaptation is not proceeding smoothly as the subject sees it, or where the subject's way of adaptation or way of life is threatened, then there is a special feeling.

It must be made clear that this is subjective. Everybody knows that an individual may be happily confident of his adaptive adequacy when he is, in fact, doing badly, and the reverse.

Feeling is therefore to be regarded as a sign of adaptive success (or non-success), or success in the whole business of living as the subject estimates it. Any threat to the continuity of adaptation or living is accompanied by a specific feeling : any clear absence of threat is accompanied by a specific feeling. The subject will wish to stop the first but not the second, and that is their best differentiation.

As well as being a sign, these two feelings are also evaluative standards for environmental assessment. It is, as everyone knows, with extreme rapidity that the potentiality of a situation in this respect is summed up, and the appropriate feeling experienced with its result in the type of action which the subject takes. Affect therefore regulates behaviour.

Here personality organisation in terms of psychobiological integration comes into sharp focus. By virtue of the efficiency and scope of the individual's symbolising function, a situation at first sight adaptively uninviting may or may not on scrutiny show adaptive potentialities valuable for the life of the subject. This would form the simplest foundational example of the subjective control of emotion or self-control, and the philosophy of opportunity.

Feeling, or affect or emotion, may therefore, if we come down to first principles, be regarded as a subjective event, part of evaluation of a situation initiating, or tending to initiate, action in regard to the situation with a view to the

continuance of the living of the subject. According to the evaluation, action takes place positively or negatively. As this occurs the subjective regulative effect of emotion changes the quality of the behaviour according as it promises continuance of living or not. The two qualities of feeling may simply be called pleasurable and unpleasurable for brevity and handiness.

As has been said, all human behaviour comes from inherent tendencies for the continuance of living, and the whole structure of human cultures with their uncountable activities is so founded. The simple basis, "pleasurable—unpleasurable," is the foundation of an innumerable set of shades of feeling, for which we use names such as "anger," "doubt," "joy," "anxiety," and so on. It should also be clear that although foundationally the situation is "continuance-of-living" or "non-continuance-of-living," it has been changed from the stark issues of life and death to satisfactions in living and to the attainment of goals or not. The failure to achieve satisfactions or goals or to create the "rounded off" pattern of behaviour is in a way a small death of an item of the personality and is so regarded by many people.

It must also be clearly understood that affective processes mainly, but not inevitably, owe their origin to cognitive presentation of facts in the environment. This elementary idea must undergo some elaboration however. It is in the cognitive resources and the capacity of the individual for primary and secondary symbolising function that the responsibility rests for formulating the environment so as to give opportunity for evaluation, consequent appearance of affect, and the release of inherent drives to action. This is well illustrated at the lower end of the cognitive scale where "mentally deficient" subjects have for long been defined as so lacking in intelligence as to be unable to guard against common dangers threatening their lives.

Although affective processes are closely linked with cognitive function (and even more closely with conation), it should be recognised that affect may not only run ahead of organised topical presentation on a cognitive basis but also show no present cognitive basis for its presence. As has already been stated, affective "sizing-up" of a situation occurs with great

rapidity and the action or behaviour which follows has a character of immediacy and involuntariness which is in contrast to the system of delayed responses so typical of psychobiologically integrated behaviour. On the other hand, the drive of affect and instinct may be canalised and rendered more continuous and less immediate by cognitive and symbolising function. The extent of mutual influence between cognitive and affective processes is thus practically unlimited. And again, we must take account of processes beginning from internal milieu changes.

The association between the two is fluid, and three everyday illustrations show this up. The first is the common experience of waking with awareness of an agreeable emotional state but no awareness of a reason for it. Within a few seconds the subject remembers that some satisfying event is going to occur that day. The second is an equally common occurrence when emotion, which has been aroused in connection with some appropriate event, persists and is reinforced by some other event to which the emotion is not relevant. The third consists of the everyday transitory waves, lasting only a moment, of joy and sadness without cause, experienced by many people.

It is on account of this fluidity of relationship between emotion and symbolisation and action that Meyer describes emotional processes as "*diffusely regulative*." Loosely bound to topics, and sometimes apparently non-topical, they yet influence behaviour to an important extent. This influence is mediated by the involuntary nervous system, by the structures composed of involuntary muscle which it controls, and by the hormones, conveniently grouped together for brevity as "the vegetative system."

Primarily, adaptation is carried out by the motor resources of the individual in the form of action by the voluntary muscles. This cannot occur with maximum efficiency unless the background conditions of the individual's physiology are so regulated as to provide the voluntary muscles with support for their tasks. These background conditions, the conditions of the internal milieu, are under the control of the involuntary nervous system—the vegetative system of smooth muscle and gland, the mechanism of homeostasis. Everybody knows that strong feeling has as part of it certain clear-cut physical

events, forcible action of the heart, sweating, trembling, weeping ; well known also are the taut feeling of what is commonly called excitement, the relaxation of relief, and the sudden feeling of weight in the thorax that comes with bad news. These are only a few of a very long list. They led Wundt to speak of emotion as made of three pairs of opposites : tension-relief ; pleasure-displeasure ; excitement-calm. It seems likely that tension-relief and excitement-calm are simply pleasure-displeasure situations where the visceral (internal) changes brought by the involuntary system are so vigorous as to be felt on their own and that it is a question of degree.

Although adaptive behaviour (neuromuscular) cannot occur unless "supported" by vegetative function, the sign that this is happening is not by any means always in the form of self-appreciated vegetative activity. This is only so when the emotion is strong, and even then it may be unnoticed subjectively. In fact, some authorities wish to place emotion where vegetative participation is obvious in a special category, and there are reasonable grounds for this. Violent feelings where physical changes are felt and obvious, do not occur in the ordinary man every day, but he certainly experiences emotion every day of the subtle, undramatic, pleasure-unpleasure type. These he interprets as "wanting to do" some task or "not wanting" to do it, or else as having the energy or not, or thinking it a bore, and so on. And he may also be in doubt, for in everyday life "pure" emotions seldom appear. In other words, the signs of vegetative activity have been reduced and their place has been taken by symbolising. The most clear cut of these symbols for examination is the idea of energy. At the end of a tiring day the individual is fatigued, and if the idea of some proposed activity does not mobilise the vegetative system and cause it to "support" the neuromuscular system, then the fatigue remains and the activity is refused on grounds of distaste formulated in various ways. If, however, the proposed activity does mobilise the vegetative system because it promises some outlet for inherent drives, no matter how indirectly, then the fatigue disappears, and the activity is initiated.

This affords an example of the way in which "interests" (*i.e.*, something which the individual is (*est*) *in* (*inter*)) in

general can establish a claim on action, being, in fact, emotionally tinged and adaptively significant for the subject.

To recapitulate, emotion is therefore a process mediated by the vegetative system and visceral function which support the neuromuscular system in its task of doing the actual work of adaptation. According to the fate or probable fate of the adaptive chain of events there is a feeling of pleasure or displeasure. Primarily adaptation is an affair of outlet, subject to very great alteration in type. Cognitive events may be firmly or loosely bound to emotion. Emotion may exist apparently with no cognitive basis, possibly as a result of a rapid summation of rudimentary primary symbols. Finally, resting as it does on the vegetative system, metabolic disturbances of all kinds influence the affective capacity which is thus altered by states of ill-health and fatigue, and this may have far-reaching effects.

From general considerations of emotion and with the tentative principles arrived at in mind, one can proceed to the scrutiny of the *Emotional Tendencies of the Individual*. The pertinent query is as to the prevailing emotional state and the most frequently experienced emotions. This is always more readily done objectively than subjectively. Humans have relatively little difficulty in describing the general emotional state and its variations in others. There are two main reasons for this.

First of all, the presenting mood, seldom a pure affect but usually a mixture of feelings, is thought to be "pure" by the observer who can only detect the major component, and this makes an apparently sound evaluation relatively easy. Its dangers are obvious. Secondly, frequently experienced emotions are seen frankly as emotions by the observer but largely as causes by the subject. For example, an individual could be described as prone to despair by observers, but might insist that this would not be true unless desperate events occurred to him. Two other features have to be taken into account : one is simulation of affect which merely requires to be considered as a possibility and of significance chiefly in psychopathology ; the second is that even where facial expression is clear indication of some emotional activity, its exact tone is usually misunderstood and misinterpreted. Many examples could be given ; simple excitement and anxiety may, for instance, be readily confused. If this were

not so, captions would have been almost unnecessary in silent films.

For the proper evaluation of emotion, action has to be available for observation and also a formulation of the emotion in speech must be obtained. It is here that the validity of the etymological interpretation of emotion as action can be seen in the speech formulations of emotion. There are several grades of this : "I am so angry with him that I would like to give him a punch on the nose" ; "I am going to give him a punch on the nose." Then would come the actual blow where emotion appears naïvely as action. The individual has shown an emotive or movement reaction. It will be seen that the simpler the reaction the more does the formulation of the actual activity replace the speech symbolisation of the subjective emotional tone. The ability to find words to express emotion is a measure of the general scope of the subject's secondary symbolising power, and finds its highest expression in great prose and poetry. Shakespeare's "If my heart were great t'would burst at this" (Parolles : "All's Well") says in ten short words what could not be equalled in pages of another's writing.

It is therefore necessary to review the actual "doing" of the subject's life-story as it unfolds for proper revelation of prevailing mood and most frequently experienced emotion. Once a rough idea of this has been sketched out it is generally possible to find a verbal description and then to arrange the emotions in an order of frequency and importance. When this basis has been established, attention must be directed to *the setting in which the emotions tend to occur*. This is usually a rather specially interesting item. Just as everybody has an Achilles heel or joints in his armour, so it is constantly noted socially that certain things tend to get a "rise" out of certain people. This is usually well known to an individual's circle, and his friends are able to predict quite accurately just what will "get so and so's goat." Patient investigation of these "rise" situations invariably give clues to personality development, particularly if the rôle of emotion in adaptation is remembered. "Rises" are invariably bound up with the progress, satisfactory or unsatisfactory, of subject organisation and point to intimate adaptive gambits of the past. Very often such emotional responses are sudden and disproportionate,

and the uncovering of their *history* is in the highest degree significant. Most particularly attempts must be made to find out what causes the "rise." Here, as has already been pointed out, others may know the answer, the subject may not. Again, the "rise"-producing situation may very well have its potency as a result of memory processes sometimes active, sometimes not, *i.e.*, the same event may emotionalise an individual to-day and fail to do so to-morrow. On the other hand, it is generally possible to establish a lowest common denominator for a number of different events all tending to produce the same "rise" of joy or sadness, and this can be an item of knowledge and self-knowledge of far-reaching usefulness.

It is not easy to establish the *adequacy value of the emotion-producing situation*, but attention must be directed to it. It is very much part of the fabric of life that we are courageous and optimistic in the face of other people's difficulties, largely because full knowledge of their context is seldom available. This affords a clue to both subjective and objective evaluation. The essentially unbreakable continuity of human life, ended by death only, provides an example of a contextual situation stretching widely away into the past and the future because of symbolising function. The adequate accounting, therefore, for an emotion-producing event is not an affair of the "now," it is strictly to be seen as part of a life-history with a future and a past. Viewed in this way, the validity of some trifling disappointment or loss in producing despair, for example, assumes a more reasonable and understandable form.

Furthermore, the adequacy of the situation in producing emotion inevitably depends on two chief factors : first, the sensory appreciation of the situation and its matching up with the stock of memory, fancy, association, and so on, in the biography of the subject ; secondly, the preparedness of the individual to experience the emotion whatever it may be. It is here that the question of pure affect, non-topical, has to be considered *vis-à-vis* emotional reactivity generally. Pure affect, generalised sadness or gladness unattached to any idea, even if present to a slight degree only, will inevitably attach itself to anything of the same character appearing in the setting on the principle of *horas non numero nisi serenas*. Thus it may well be that "reactive" sadness or gladness may merely be the evocation of an emotion *in posse*. Now this

"set" must be due to the whole nexus of the living of the individual and the evaluation of the situation, and must also be extremely broadly based and consist of the whole "philosophy" of life of the individual. The criterion of events making some take place as "sad" and some as "happy" or "indifferent" must depend on the whole of the individual and his accustomed setting and not entirely on the events themselves.

Estimates of depth and intensity of emotion are constantly made by humans, and everyday language is full of evidence of this in such phrases as, "I was afraid but not nearly so afraid as when . . .," showing a pretty fair degree of comparative powers. This turns out in practice to be due usually to the ease with which individuals appreciate the degree of physical disturbance accompanying the emotion. It has already been pointed out that the internal milieu is automatically regulated so as to support as well as may be these "structures of external relation," the voluntary muscles, in whatever way support is necessary.

THE MEASUREMENT OF EMOTION

Everyone is accustomed to measure emotion as a means of assessing certain values of situations in the environment; that is to say, situations, experiences, stimuli are arranged in a system according to their value as producers of pleasure, un-pleasure, or intermediate mixed grades. Such an arrangement is regulative in a way because, other things being equal, situations at the pleasure end of the range will be deliberately sought on a basis of immediacy or non-immediacy according to make-up. This implies a degree of choice of "setting" by the subject. On the other hand, when experiences and situations which are unsought demand the usual adaptive process, emotion makes its appearance, which is now measured by the subject, as it were, from the other side of the reaction in terms of adaptive success or failure. Fundamentally there is passivity on the one hand and activity on the other. In the second of the two types of reaction the emotion may, as has been said, very well be measured by the degree of adaptive success or by the actual value of the objective behaviour—what the individual actually did. This cannot be mistaken altogether

although the subject, it is true, says he "closed the door firmly" when an observer says he slammed it.

In the same way the physical accompaniments of emotion which may be observed—changes in colour, pitch of voice, and tremor—may not be appreciated by the subject but may be quite objectively apparent: Far from being accurate, it is yet an obstinately held belief that emotion may be invisible when it is, in fact, apparent. Most people like to think they have a poker face, which is, indeed, a useful gift and expressed in the British tradition, particularly fostered in the public schools, of impassivity and subordination of emotion wherever possible. This interesting social feature is the expression of an idea inherent in the maturation process in which the progressive control of native emotion is fundamental.

At the commencement of the century, as part of an attack on the James-Lange theory of emotion (which stated that emotion consisted merely of the experience of the bodily changes in emotion, *i.e.*, we are sad because we weep, not the reverse), Sherrington demonstrated that emotion was shown by a dog which had been cut off from all bodily sensation rearward of a line in the area of the shoulder, but too wide inferences cannot be drawn from this for humans.

The involvement of the body in emotion is naturally very great and also an affair of infinitely fine grading. It is the result of activation of the automatic nervous system so as to make the internal milieu of the maximum assistance to the voluntary systems in their task of environment management. In other words, the internal milieu and the external milieu are intricately influential one on the other, and it is through emotional mechanisms that the regulation is expressed.

In consequence of this the gauge of physical concomitants of emotion is commensurate with the range of influence of the automatic nervous system with which it is, of course, identical.

It is not possible to simplify this by saying that activation of the pressor, sympathetic or thoraco-lumbar is equivalent to unpleasure, or that activation of the inhibitor, autonomic or cranio-sacral division is equivalent to pleasure. In actual living the two are constantly meshed in, specifically in the biology of sex functions. Furthermore, variations in the physical concomitants of, for example, anger, occur constantly

from individual to individual, and the physical appearances and bodily reactions of anger may be quite different in one subject from what they are in another. "Cold" rage and "hot" rage are familiar terms based on human experience.

These considerations make it clear that measurement of emotion, while it certainly occurs both objectively and subjectively, depends on such a large number of variables that only very rough estimates can be arrived at. Probably the only useful method of trying to come near comparative standards would be the scrutiny of the entire setting of the emotional rise. Certainly attempts to estimate degrees of emotional reaction in physiological terms have failed to yield any results. Blood chemistry and circulatory investigation have alike proved inconclusive. Extreme emotion notoriously produces rises in blood sugar, in the heart-rate, and the blood-pressure, chiefly systolic. Non-extreme emotion and fine grades of feeling generally fail to yield measurable physiological changes. Only respiration gives some data. There seems to be a fair degree of change, varying from the temporary arrest of extreme emotion ("breathless excitement") to the grouped breathing and sighs of less intense feeling. It is perhaps noteworthy here that sighing seems the most constant and the most noticeable physical indication of minor emotional disturbances in the general direction of unpleasure, and this has long been noted by the plain man for whom any individual "sighing like furnace" was sure to have "something on his mind."

Attempts have also been made to estimate intensity of emotional reaction through the medium of galvanometric measurement of skin potential. Here, although variations constantly occur and can be easily demonstrated, it has proved impossible to arrive at anything in the nature of a scale.

In the same way attempts to measure and identify emotion from facial expression have failed to yield positive results. Familiarity with a given subject, fortunately for human relations, enables an observer to gauge mood, but Shakespeare's statement, "There's no art to find the mind's construction in the face," is still true (Duncan : "Macbeth"). "We read situations, not faces," says Cole—or as has been said above, "the entire setting of the emotional rise."

EMOTIONAL CONTROL

It is rather in association with possibilities of control that measurement becomes a practical issue and strictly part of the business of living. It is evident that control must be a function of two variables, emotion on the one hand and powers of control on the other. Precisely this point has exercised the minds of the numerous scrutineers who have attempted to understand the English (as opposed to British) temperament. Amongst these there are two schools of thought : one satisfied that *flegme britannique* is due to self-control and another equally sure that it is present because there is nothing requiring control.

Commonplace though it may seem, this is yet the basis of assessment of individual self-control ; the controller *vis-à-vis* the to-be-controlled. It is here that two elements appear : one is the set of standards developed or learned in regard to the function and value of self-control for producing satisfaction ; the second is the actual way in which self-control works in terms of subject integration and symbolising function. As has been repeatedly stated, it is symbolising function that brings past, present, and future all together in the "now" and for one subject or individual. So, therefore, this function can stand guard over emotion as a control. It is this that is meant when we speak of head ruling heart, and that is what the poet meant when he spoke of the ability to "see life steadily and see it whole."

Estimates of emotional control will inevitably indicate emotional pace, but they are also a measure of symbolising function. This point emerges sharply in connection with problems of responsibility and impulse. Everybody accepts as natural the emotionality and, on the whole, poor control of the child who, after all, begins as a creature "whose only language is a cry" and in whom emotional expressions long antedate any other. What is not so readily seen is the other end of the process, for here there is no dead-line and the development of emotional control takes place at infinitely varying speeds towards the individual's own personal maximum. It is important to remember this point. In personality study not only should the level of control be estimated as well as is possible but also there should be a contextual review, for this will yield probably important data in regard to development.

Objective Behaviour in the Emotional Situation is the Supreme Test of Control of Emotions.

Behaviour, however, covers a wide range. Mark Twain, in "A Tramp Abroad," describes a Frenchman pacing a room and leaving on a table each time he passed it a freshly extracted tuft of hair, exclaiming as he did so, "Behold me! I am calm." This is a simple level and a common one, where subjective and objective do not well correspond. Mark Twain's Frenchman was, in his own view, calm, and manifestations of emotion are commonly contradicted verbally by the subject.

Attention should be directed to behaviour in a wider sense in regard to performance generally as well as *ad hoc* immaturity of the stamping and banging order, and estimates made of the effect of emotion on required performance on the one hand and spontaneous performance on the other. We have here to reconsider the question of the "pure" affects of sadness and elation, quite non-topical, of Meyer and the so-called "reactive" or topical emotional states, although a caveat has already been made as to the possibility of the later being, in fact, "evoked" rather than truly "reactive."

In both types of emotion activity is modified, and it is modified in precisely the terms suggested by the "adaptive success or failure" formulation presented earlier. However appearing, pleasure emotion tends to increase total performance and unpleasure emotion to reduce it. As pure emotion this simply appears mainly as retardation or acceleration; as topical emotion it appears as preoccupation of a highly competitive type, materially reducing both intake (qua cognition or consciousness or sensory contact) and output (qua motor activity or conation). Simple proofs of this can be easily obtained from actual living. One good example, out of many, is afforded by the slow learning and general poor progress of a boy who was an unwilling boarder at a private school. This boy was enabled to live at home and continued to attend the same school, but he now became a leader and was top of his class. This clearly shows in almost pure culture the intake and output deficiency, especially when we take into account that the boy was specifically faced with the task of learning. It also shows the extent to which the personality is

pluralistically integrated, and satisfactions directly or indirectly arrived at.

Under the heading of behaviour in emotional reactions, as well as the objective, one has to consider the subjective as far as it can be made usefully definite by limiting it to a description of the practical management of states of emotion. This is easily enough arrived at by questioning in terms of real life. For example, instead of questions in regard to frustration and depression as such, a group of workers in industry were asked how they had practically tackled unemployment. Rather interestingly the energy and efficiency of their adaptation showed a high correlation with performance tests. Those who had weathered the hard times well showed high levels of performance in test situations.

ADAPTIVE VALUE OF EMOTIONS

Emotions may be helpful or hindering (plus or minus or both) to the progress of the subject. It has already been stated that pleasureable emotion goes with adaptation, which is so to say "with the grain" of general motivation and vice versa for unpleasurable emotions. Now, this may naïvely occur independently of symbolising function both primary and secondary. When symbolising function is involved, however, the addition of true voluntariness, *i.e.*, non-immediacy, means that oftentimes activity is envisaged of a kind "against the grain" of general immediate motivation. This is merely another way of stating the age-old question of immediate satisfactions, more distant goals, and the subordination of the present in favour of the future. Clearly, on a basis of pure immediacy, emotion is as a general rule helpful ; that is to say, it furthers the aim of the motivation. On a basis of non-immediacy, primary symbolisation largely takes the place of present immediate sensory stimulation ; the distant peaks are not seen but a mind's-eye picture of them is seen, the effort and the emotion bend to the task of reaching them.

The extent to which this can happen in any given personality is an item of evaluation of considerable importance as being part of the organisation of future-considering function.

There is, however, yet another aspect of the function of

emotion, namely, in regard to its stimulating or paralysing effect, and this particularly applies to the dramatic emotions of fear and anxiety. The extent to which these two emotions promote positive "attack" behaviour or passive "defence" or substitute reactions is at once an important measure of general personality structure and of the sensitivity of the autonomic nervous system and the internal milieu which it regulates. Obviously fear and anxiety, the common experience of all, are or should be fundamentally protective-stimulant; serious failure of this to develop, of course, has to be discussed under personality disorder.

In the same way attention has to be directed to the special emotions of jealousy and hate. In these two can be seen, in sharp focus, the social integration of the individual, and special search should be made for test or sample situations. The tendency to experience these emotions is a useful item in the ascertainment of self-evaluation *vis-à-vis* the community as represented by individuals in close association or special relationship with the subject.

SYMPATHY

To what extent are you stirred by the emotions and moods of others?

Everybody knows, and it is unfortunately all too true, that humans are readily influenced by the emotion of a crowd, but it is questionable if this is always pure emotional reverberation. "'It's always best on these occasions,' said Mr Pickwick, 'to do what the mob do.' 'But suppose there are two mobs?' suggested Mr Snodgrass. 'Shout with the largest,' replied Mr Pickwick. Volumes would not have said more."

It may well be that the alleged infectiousness of mob emotion owes itself partly to a Pickwickian belief in the Big Battalions.

This is a question of sympathy in the proper sense of the term, and it is useful to note how often people deficient in this quality are described as having no imagination. This is in reality fairly accurate, as can be demonstrated. To begin with, "pure" affect for the moment aside, emotion is sense originated. Now, it is amply proved that our ability to interpret emotion from expression and gesture is low. Therefore, in

appreciating the emotions of others, we have to rely on language used to describe an experience or event, and we are invited implicitly to share in the resulting emotion. This can only happen as a result of manipulation of primary and secondary symbolisation, and therefore imagery or imagination. On the other hand the sensory appreciation of events causing emotion in others may or may not "affect" the observer in terms of his capacity for primary symbolic function and, importantly, the general tendency for mutual identification which exists amongst humans.

Inevitably we have to reckon with under-sympathy, over-sympathy, and a balanced situation. This may seem somewhat obvious, but it is, nevertheless, in this scale that the subject must find his place with the necessary elaborations and amplifications.

HUMOUR

What is your type of humour?

There has, it is well known, been a large volume of writing around this topic, and innumerable attempts at definition have been made. Further research into this aspect is not in the purpose of personality study. The plain man's estimate of the comic or funny cannot readily be reduced to a common denominator, and probably it is fortunate that this may never happen. In personality study we are not dealing so much with vague generalisations as with the scrutiny of specific reactions of an individual in specific situations. It is the nature of the humorous for the specific subject only, in regard to which generalisation is wanted. Practically, we can get down to brass tacks by reviewing different cartoonists, humorous writers, and comic characters. A certain proviso must be made with reference to the need for care in separating humour, satire, and wit. Devotion to the latter has a significance rather obviously for the preponderant rôle of secondary symbolisation in the subject who is specially attracted by wit, parody, and so forth. It is a devotion to words rather than to actual "doings."

SENTIMENT

In the capacity for sentiment we see in a fairly well-organised form the varying emotional values of the elements

of the individual's environment or setting. Sentiment, as everybody knows, is the term used to describe a combination of certain elements. These are, first of all, objects or ideas ; secondly, a specific emotion, always aroused by the objects or ideas ; and thirdly, action or potential action in relation to the objects or ideas. The element of action, of course, is yet another example of the movement producing effect of emotion.

Generally speaking, the emotional life of the organised and mature subject consists of a fairly consistent attachment of emotion to topics giving a general predictability of feeling and action to the total behaviour typically different, for example, from the behaviour of the child, in whom quite different emotions can be aroused by the same object or event within a very short time span. Sentiments are naturally organised in two groups. One is largely social and concerned with inter-personal relations, beginning with familiar relationships, ending at whatever particular level of human brotherhood for which the individual has the capacity. The other consists of emotions aroused by events and objects of a non-human type such as natural beauty, love of country from a scenic rather than a historic point of view. The sentiment endowment of the individual constitutes, in short, his stock of static emotional potentialities, and as such is highly valid for the determination of behaviour.

BELIEF

Belief is notoriously also a determinant of action. In belief we see sentiment, *i.e.*, emotion and object where the element of acceptance by others is important on account of the alleged supreme ethical soundness of the idea in question. Ordinary sentiment can accept disagreement ; that is to say, it may not be shared and yet the subject shows no particular reaction. On the other hand, whenever sentiment assumes the character of belief, failure to share it arouses violent emotion as everyone knows. The reason for this is quite obvious. Beliefs are sentiments of special importance for the structure of the personality ; not only is the integrity (or integration) of the personality threatened if the beliefs are denied or at least not shared, but also the subject loses the highly important

feeling of identification with the community. That this is so is well demonstrated by the accuracy with which the converse takes place. Opinion tends to become belief, and for many personalities such opinions are so laboriously arrived at that they become almost children of the mind, not to be deserted. It is therefore important for the estimation of maturity to arrive at some conclusion as to the rôle of belief for the subject under scrutiny. Naturally the mature personality is little dependent on belief for bolstering up. It should also be recognised that belief will inevitably be attached to what is likely to be profitable for the subject and that beliefs are not amenable to argument.

When the foregoing data are formulated in a concise form they give a basis for estimation of what may be called temperament, the general emotional endowment of the individual. Whenever possible, in order to avoid too introspectionist an element, the temperament should be placed for comparison alongside what is known of three other individuals regarded as contrasting.

This having been done and reviewed, there is a strong probability that some items will stand out more boldly than others, and these then invite further scrutiny as far as is possible.

CHAPTER V

THE TOPICAL PROCESSES AND ASSETS

ACTION TENDENCIES

Give a list of the prevailing trends or drives, habits and needs, and cravings and aversions. Arrange them to show their influence on day-to-day living and indicate those where non-satisfaction would be intolerable. State with each what makes the need so strong and what starts it off. Trace each as far as possible to general instincts and to individual (special) determining factors. How far were specific childhood or later experiences and training influential? How far do you consider or find "instinctive" action and habit modifiable and what are the factors of control? To what extent contributive or detractive?

ADAPTIVE processes in general demand actual movement of the "structures of external relation," i.e., the muscular levers of the body. The capacity to carry out such movement varies from individual to individual and in the same individual from time to time. In the last analysis, all human energy must depend on the conditions of the internal milieu, for it is they alone who can supply the support without which the levers of the body simply cannot act. Now, the conditions of the internal milieu are in their turn dependent on biological inheritance of quality and quantity of body tissue multiplied by (not merely added to) the rather uncountable elements of environment. Furthermore, the influence of the elements of environment do not impinge naïvely on the individual, for his particular setting distributes the emphasis in a way that may be counter to the native physiological value of the stimuli. For example, there could be a "set" of paying more attention to small sounds than to loud ones, on account of special significance.

Not a closed circle, the process is yet one of general integration of external milieu, general personality resources, i.e., psychobiological capacities and, as part thereof, internal milieu.

The general output of energy can therefore vary with the

variation of any or all of these three. Low environmental stimuli, physical incapacity, qua structural defect, non-supportive internal milieu can all reduce energy or conversely. Variations in these factors are responsible for the often mysterious defections and accretions of energy which the plain man has long learned to accept, saying "I feel good to-day," or the reverse. Scrutiny of these variations does not always yield clues as to when and why they occur, but when this is possible, study in the individual subject does give an estimate of the high and low levels of activity—a useful piece of self-knowledge which can be capitalised on. There are often, for example, optimal conditions for individuals, quite easily attained, that add enormously to efficiency, and these may never be formulated out except as a result of specific inquiry.

Varying levels of activity may be due to endocrine influences leading in turn to tensions motivating the structures of external relation, *i.e.*, the musculature. Ovulation, shown by Richter to be a modifier of action in the female rat in this way, cannot be shown to act in such a simple and direct manner in the human female. Furthermore, ovulation in the human is readily influenced and its rhythm abolished by environmental stimuli occurring even at second hand, as it were, through the medium of speech. If, therefore, ovulation—the most objective and regular manifestation of endocrine function and a definite influence on activity in certain animals—can be shown to be in its turn susceptible to "external" environmental influences and verbal influences, then obviously to ascribe fluctuations in activity to endocrine function and leave it there is incomplete and leads nowhere. Evidently, activity and its fluctuations must depend on the integration of external milieu, internal milieu, and psychobiological organisation all working together : a proposition not open to simplification but certainly open to scrutiny.

The general functioning of humans comes to be described as negative and positive tendencies—aversions on the one hand and needs or cravings on the other. The achievement of these is served by movement possibilities given such names as trends, drives, and habits, and these in their positive and negative forms rest on states to which we give such names as needs, cravings, and aversions.

Objective scrutiny of the trends, drives, and habits is

best brought down to earth by simple examination of the gambits of conduct of the daily living programme as was roughly done in the earlier part of the study. The programme from day to day and week to week can be seen to consist of ways of "doing," frequently permitting of an unselected alternative often preferred by the candid, who so often say "Why don't you do it this way?" The subject frequently cannot say why a given task is performed in a certain way rather than in an equally effective other way, even when pure habit is accounted for.

The fact is that patterns of behaviour, trends, or drives, and their humbler associate, habit, are but the "outward and visible sign" of needs, cravings, and aversions which in turn are positive and negative factors requiring equation for personal equilibrium to be produced or restored, even although this can never be anything other than temporary.

If the question of needs, cravings, and aversions be considered not in the "now" but in the context of the life-story and an attempt made to get the history, one can as a rule observe two factors. One is the enormous capacity for change and elaboration shown by needs and their servants the trends, even although the original nature of the process can be detected. The other is evidence that needs, cravings, and aversions are as old as the individual, that needs seeming to be new or *ad hoc* in regard to environmental changes are, in fact, raised on a foundation of older and similar need tendencies, and that in many cases needs, cravings, and aversions can be traced back to very early demands.

Psychobiology has always insisted on the objective data of physiology as essentials for the comprehension of the process of "individuation," and it is useful in this connection to reduce the question of needs to what is ascertainable at the early stages of life, in infancy.

The noenate shows two sets of reactions: one is in response to external stimulation influencing any of the senses—to these the responses are simple, immediate, and reflex; the other is in response to stimuli arising as a result of processes disturbing or tending to disturb the constancy of the internal milieu—such disturbing influences are typically and fundamentally heat, cold, oxygen need, hunger, and thirst.

This should be noted; whereas external stimuli usually

call forth rather localised and almost *segmental* responses, internal stimuli tend to produce generalised activity involving all the potentialities of the creature. It cannot be otherwise than that all subsequent behaviour is founded on this principle and substratum. All needs, cravings, and aversions, and the drives, trends, and habits which serve them, must be the contextual material of noenate behaviour and, indeed, of the very similar antenatal behaviour. This level contributes a lowest common denominator, the most important element of which is that threats to the constancy of the internal milieu, however arising, mobilise the entire action potential, such as it may be, of the individual.

It is impossible and should be gratuitous to attempt even to outline the elaborations of this principle and the innumerable shifts of emphasis and pattern, and even reversals, which must inevitably occur without invalidating the general scheme.

Two important points should be noted. First of all, the individual is not mature at birth and may show continuing development, such as myelinisation of nerve fibre, into the thirtieth year. Furthermore, the notion of maturity is a vague and indefinable one, since, as in all else, ripeness must be continuous with over-ripeness. As well as in other respects, these changes involve biochemical modifications affecting the "resting" or constancy level of the internal milieu. Secondly, this aspect of subject integration or individuation is one where the principle of delayed routeing of stimulus to response comes into sharp focus. Starting from the basic and fundamental concept of internal milieu disturbance asking for readjustment and naïvely prompting raw drives, we arrive in the human at a stage where the promptings of internal milieu undergo a translation into primary and secondary symbolisation with resulting economy and effectiveness of adaptation, and with indescribable elaboration.

Obviously the process may occur in either of two directions. Symbolising function may produce internal milieu disturbance calling for further symbolising leading to action calculated to restore balance. That is to say, ideas may produce internal changes which are unwelcome and further ideas may have to be evolved in order to elaborate appropriate action. Obligatory action, on the other hand, may produce unwelcome internal changes only restored by the appearance of certain ideas.

On the other hand, these sequences and similar sequences may just as readily occur around minor disturbances of the internal milieu and around disturbances not necessarily disagreeable or unwelcome.

This process, like others, may break down. It is, for example, a commonplace that animals and young children, where environmental complication is slight, seek to identify and ingest substances calculated to restore the balance of the internal milieu. On the other hand, the desire for food ceases after starvation for three or four days, and seriously ill subjects may be unable to summon up energy to help themselves. Other factors of an even more elaborate nature may appear, as, for example, rice-eating Indians who perished of starvation in the midst of assorted foods amongst which, however, there was no rice.

It is obvious that there must be an optimum level of internal milieu in respect of general biochemical features and specifically of muscular tension in regard to both voluntary and involuntary muscle. The achievement of such a level must clearly be the continuous and hopeless task of an organism constantly disturbed by an ever-changing world, and the activities appearing as drives, trends, and habits have this as their goal. The degree to which this simple issue has been overlaid and obscured is but a tribute to, and a measure of, the ever-increasing complexity of man's setting.

The achievement of optimal internal milieu conditions corresponds to what Meyer has always called "resting points of satisfaction." It should be recognised that such points may be physiologically and socially unsound as well as the reverse. Pleasure in anti-social behaviour and in drugs are simple examples. At the same time it should be specifically noted that Meyer's phrase is "resting points," i.e., points of pause and balance. The plain man's phrase is "peace of mind," and when this phrase is used it can readily be seen that it is a special quality of symbolising function which tends to appear along with restoration of internal milieu balance and reduction of tension, temporary though it may be.

Quite evidently, for example, complex drives of the home-seeking type may depend on biochemical factors, as can be readily shown by reference to innumerable popular songs, where the chief characteristic of home is the kind of food

to be found there. The whole question of food choice and feeding habits is bound up with this principle. To attempt to separate drives generally into trends for self-preservation (ambition, position, success), for social integration (influence, responsibility), or for reproduction is merely to give a descriptive name, a process of subdividing what should first be thought of in general terms. In considering drives and trends, it is well to pursue the time-honoured discipline of advancing carefully from general principles to particular cases.

Actually, the process of canalising basic drives for relief of tension and homeostasis (maintenance of internal milieu balance) seems the foundation of personality organisation and subject integration. It is, in Meyer's words, "the experiment of nature," different in every individual as regards detail yet universally resting on fundamental biochemical processes.

It is such considerations as these that allow an approach to drives and needs, as it were, "from the ground up" and afford a reasonable chance of making a list when once it is properly understood what is to be listed.

List the drives and tendencies, non-satisfaction of which makes itself felt in such a way that you cannot afford to cut them out, and arrange the items according to the degree of influence on your daily life and choice.

The scope of this inquiry covers the territory of the essentials and non-essentials in the actual "doing" and working of the individual. The standpoint in regard to essentials and non-essentials varies widely from person to person and resolves itself into a question of provisos, hemming in to different degrees the scope of the life activities. The history and origin of absolutely and relatively insistent needs affords clues not only to the present status but to the sequence leading up to it, during which progression the need may quite have changed its external character. Childhood needs, for example, can change the drive which serves them to some activity proper to adolescence and, again, to a trend suitable or apparently consonant with adulthood. All the while the basis of the need remains a childhood situation, and it is probable that this has a fairly wide application.

At the same time, it is important to realise that these

early needs come, as maturation proceeds, under the influence of symbolising function with its characteristic fusion of past, present, and future. The urgency of needs is a measure to some extent of the maturation of the individual which is, in turn, bound up with the development of symbolising functions qua language and intellect. We see, therefore, in the degree to which certain needs may be seen as indispensable, a measure of maturity and of elasticity and of balancing power in the personality.

It is obvious that this factor has a direct influence on general adaptive functions. The individual who is relatively free of insistent needs resembles the voyager who is more mobile because he is "travelling light." On the other hand an extreme absence of needs would amount to morbid uninterestedness.

Trace each as far as possible to definite general instincts and to individual determining factors. How far were specific childhood or later experiences and training influential?

The standard conception of an instinct is that it is behaviour determined by growth and not by experience, inherent, unlearned, and perfect at its first appearance. Somewhat liberal use was made of this notion until recent years, when the validity of the instinct theory has been questioned. This questioning has been due to a growing recognition of the relative unreliability of our information in regard to so-called instinctive activities, and of the extent to which gambits of behaviour were simply labelled instincts and left at that. It has formed a good example of the all-too-common fallacy that to give something a name explains also its nature.

It has become obvious, as a result of objective experiment, that action potentialities, growth and heredity determined, may be environmentally canalised. It should further be noted that the growth element of the complex is itself environment-influenced. Such action potentialities, *fundamentally reflex*, in fact form the basis of these activities formerly called instinctive, and so remarkably elaborated by some authors as to run into thousands. The question of instinct has largely been swallowed up by considerations of development inevitably bound up with the equally long-standing question

of endowment and environment, still open, but tending as time goes on more to a balance than to a demonstration of one-sided importance.

It is interesting to observe that Meyer more than twenty years ago insisted on the idea of general instincts only and, in fact, laid down a tentative scheme (see below) correlating basic movement capabilities with the service they could give to the individual, first for himself, and then for himself as a member of society according to the way in which the movement possibilities were evoked by environment.

SCHEME OF ORGANISATION OF ACTION POTENTIAL (MEYER)

I. Primitive and General Sensorimotor Resources—the part which might almost be treated as a chapter of physiology—transformed under the social influences into passive, impulsive, and active uses in actual life.

<i>Primitive Endowment.</i>	<i>The Actual Result.</i>	<i>Social Influences.</i>
1. The sensing mechanisms (the eyes and their movements, the smelling and sniffing, hearing and listening, etc.) with dominance of the discriminative-noetic feature.	Oriental activity and storage of associative experience. Personal attitude, manner, and tendency, orderly or erratic, individual or socially adapted.	Customs of general attitude and behaviour. Demands on attention.
2. Mastication and deglutition apparatus.	Feeding and elimination habits.	Table and feeding manners. Decorum.
3. The eliminative mechanisms.	Activity and habit resources.	Required skill in handling and shaping ; in gait, dancing, etc. ; in speech.
4. Prehensile organs.	Gait.	Emotional decorum.
5. Locomotor apparatus	Language.	
6. Articulation apparatus.	Emotional life.	
7. Reactions based on visceral habits.		

II. Preservation of Self and of Social Group.

<i>"Instinct" according to Watson.</i>	<i>Individual Habits.</i>	<i>Social Settings.</i>
Feeding.	Appetites and idiosyncrasies —team work of organs—its dovetailing with the organic needs, and the available material and social opportunities (impulsiveness, cravings, foresight).	Various types of tribal and social opportunities (familial or extra-familial). Food habits and customs.
Shelter, dress, and home-making.	The extent of adaptability or individuality or sociability and training in the shaping of an existence.	Traditional costumes, fashions, and homing customs, with home, boarding-house, club, or roaming existence.

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"Instinct" according to Watson.

Organisation into the special job (creative, predatory or parasitic, etc.).

Individual Habits.

Extent of individual choice and determination of the job as an expression of the personal endowment and instincts. Versatility. Endurance and efficiency.

Social Settings.

Opportunities offered by the environment—socially or individually determined jobs. Customs of systematic training *versus* drifting.

III. Play, Rest, and Sleep Cycles.

"Instinct."

Play.

Rest and sleep.

Individual Result.

Amount and type of active play *versus* mere dreaming (social or individual). Best amount and type and time.

Social Settings.

Amount and type of social and recreative resources of a community. Social modifications of mere day and night adaptation. Protection against exploitation.

IV. Sex Problems.

"Instinct."

The sex organisation and sex activities.

Individual Result.

The infantile equivalents and part activations. The fumbling period. The imaginative fumbling. Adolescent and maturation problems. The resources of regulation. Social relations.

Social Settings.

Social customs of the tribe—in the sex habits as such, in art and fiction; utilitarian and ethical adaptations.

V. Gregarious and Social "Instincts."

"Instinct."

The asexual inter-dependence, attachment and aversions.

Individual Result.

The tendencies favouring extroversion *versus* introversion. The proper balance between individualism and the group spirit. Democracy and solidarity.

Social Settings.

Freedom or tyranny of customs and individuals. Political and civic organisation.

VI. Defence and Attack or Submission Reactions.

"Instinct."

Self-protection — defence—attack — submission.

Individual Result.

Extent of anger, fear, and kindred reactions, and their proper regulation.

Social Settings.

The code of personal rights to defence and to expression of emotion.

VII. Vocalisation, Language, Thought, or Secondary Symbolisation.

"Instinct."

Imitation; inter-communication.

Individual Result.

Evolution and systematisation of the associative assets and symbolisations.

Social Settings.

Literature, art, philosophy, and religion and science of the group.

VIII. Individual Idiosyncrasies and Peculiarities.

This is precisely the point at which modern psychological thought has arrived by various roads quite independently of Meyer's original psychobiological formulations. Nevertheless, in these formulations Meyer laid down certain principles, now well established. Primarily, the principle is that the looseness of organisation of humans is precisely the feature that gives opportunity for the maximum development in terms of "setting" or environment. The experiment of nature that is man is so flexible that heredity and environment can almost change places as influences. A crude example would be supplied by the house-martin which will not by any chance build a nest of anything save mud, whereas a human in need of shelter would use what the setting supplied regardless of the type of previous shelters.

There are several interesting features about this looseness. First of all, it lends itself to an infinitely wide range of possibility of development since it offers almost no limits; and in this way it is similar to holophrastic language with its wide use of any given verb. Secondly, it is the basis of what Meyer rather economically describes as "pluralism," the principle of multiple reference in behaviour. Thirdly, it is a useful foundation for the important concept of reaction to stimulus as a sequence modified by and changing with an advancing maturation process, partly, at least, environment-determined, but to the end of which we can assign no date.

With these considerations in mind it should be possible to make a coherent statement that "instinct" could perhaps be conveniently described and thought of as patterns of motility potential in special terms of openness to change, negative or positive, always against a background of dynamic pluralism offered by the environment. Possibly motivation in general is best seen as pluralistic, involving every level of integration from the hormonal to the psychobiological, singly or in combination, from time to time, and from situation to situation.

How far do you consider or find instinctive habit modifiable and what are the factors of control? To what extent contributive or detractive?

The question as to where instinct stops and habit begins cannot be answered. A standpoint can be taken up without

dogmatism by considering first that instinct is best thought of as a rather loose system of potentiality, evoked by circumstance, rather definitely resting on segmental reflex response possibilities. This looseness can be and is firmed up to a varying degree by the development of habit. The rôle of habit can be seen at once when it is thought of as part of "subject organisation" (Meyer) or more narrowly as evidence of the integration of the nervous system. The two chief features of habit are rigidity and the essentially "partial" nature of the performance. Habit is thus, from one point of view, an economiser of general personality function, taking care of possibly complicated activities in a cut-and-dried way as a substratum to the "looser" more generalised activities. Typically, if we regard degrees of consciousness as corresponding to levels of collaboration of all the personality assets, then habit activities correspond to moderately low degrees of consciousness in comparison with the looser non-habit adaptive performances where the possibility of variation is greater. On a still lower level would be activities more and more closely approaching the reflex. The difference could be formulated as the difference between habits of daily ritual such as dressing, and performances such as walking on a particular route. The difference in degree of total collaboration of personality assets, including symbolising function, is at once apparent.

An interesting parallel exists in the organisation of the nervous system. There, it has long been recognised clinically and physiologically that effective "voluntary" movement can only take place if the system of attitude or posture dependent on reflex muscular tone is intact. In the same way versatility of adaptation takes place optimally on a basis of sound habit, and habit is directly a product of personality organisation. This affords yet another example of hierarchical arrangement of levels of personality function.

Ease of formation of habit and durability of habit naturally influence, therefore, general adaptive function. The common extremes are, on one hand, great ease of habit formation and insolidity of so-formed habit and, on the other hand, slow habit formation and rigidity of so-formed habit. At the same time ease of habit formation may be accompanied by fixity, especially in habit systems serving particularly individual ends rather than functions of the individual as a socialised unit,

e.g., the rather rigid household routine of those who dwell alone. Again, slow habit formation allied to insolidity of habit is manifest indication of personality poverty. Mechanically this set of principles can be tested by such a procedure as observation of the organisation of the subject switching from driving one automobile to another where the controls are differently located.

The traditional doctrine that habits are most easily formed and least durable in childhood need not be uncritically accepted. Two factors modify this : first of all, the rate and degree of maturation vary widely in different individuals ; and secondly, environmental evocation of this can and does show very great variation both qualitatively and quantitatively. Fatalism and dogmatism have no place in considerations of habit equipment, evidently capable of change to a great degree all through life. In a certain sense the whole sequence of living is a process of development ; the experiment of nature only ends in death.

We study habit as a foundational organisation for its modifiability and its value for the adaptive success and satisfaction of the subject's living.

Make a table of use of alcohol, tea, coffee, tobacco, drugs. How determined? Do you notice any periodicity in the desire for use or marked fluctuations? On what does the periodicity seem to depend?

The generalised and widespread use of these substances, and the behaviour leading up to their consumption and produced by their effect is a convincing and everyday suggestion that human conduct may be motivated by drives coming ultimately from disturbances of internal milieu. Sinclair Lewis in one of his works describes a character who had stopped smoking and in an hour or so had trained himself to unlock a drawer, take out a cigar and light it, all without the intervention of "consciousness."

The lowest common denominator for these substances is that they increase, in the view of the subject—and this view may be quite wrong—his adaptive capacity. This is the way in which the problem is formulated by the subject, that "I can't do so and so unless I have a drink" or "a cigarette" or "a

cup of coffee"; and, of course, the effect of these is chemical and influences the internal milieu. The influence of these three is fairly definite. Alcohol counters fear, anxiety, and tension; for these it is a specific, unfortunately overdoing its office in producing the well-known phenomena of alcohol intoxication and, of course, more or less of addiction.

Along with its almost infallibly beneficial action on fear of every degree of severity, alcohol progressively reduces adaptive capacity. Sensory discrimination is rendered inaccurate, motor activities are disorganised, and the efficiency of symbolising function is reduced. Performance in regard to skills generally, it is safe to say, is never improved by alcohol, although it may be subjectively regarded as good, particularly in view of the emotional state of the individual. It is a matter of common knowledge that the emotional states resulting from the taking of alcohol vary very greatly—hilariousness, anger, tearfulness, and so on. The importance of the effect of alcohol on fear is that it seems a general rather universal result regardless of side effects such as the above-mentioned.

Tobacco occupies a similar but less dramatic rôle as a substance used chiefly for the reduction of tension. A good deal of emphasis has been laid from time to time on the importance of chewing and sucking in the use of tobacco as evidence of persistence of early infantile oral activities. How this has been reconciled with the decline of chewing tobacco, the use of snuff, the general diminution in pipe-smoking as opposed to cigarettes, and the almost total disappearance of the cuspidor is not easy to understand. Certainly, tobacco is used in greater quantity in the presence of tension. The rise in tobacco consumption during the wars of 1914 and 1939 would support this. At the same time it should be recognised that smoking, filling and lighting a pipe, getting out a cigarette, etc., generally affords the distraction and relief of tension given by small muscular movements and seen in twiddling, tapping, "doodling," etc., in people who are under pressure.

Relief of fear and tension therefore constitutes the main primary contribution of alcohol and tobacco. The secondary situation is, of course, the development of habituation. This seems to consist of a tissue need for the substance, independently of environmental situations calling for their use. In consequence of this, deprivation symptoms readily appear, and

their duration seems dependent on primary and secondary features, *i.e.*, the constitutional tendency to fear and tension and the degree of habituation.

A good deal can be learned by the simple test of discontinuing the use of alcohol and tobacco and observing the effects. A useful sorting-out of primary and secondary features is usually possible with achievement of a knowledge of sources of tension often not easily got at. For example, one subject found it easy to stop smoking when on holiday but hard when he was at work. Yet he would have scouted the notion of any special tension in his work. Furthermore, once the tissue balance had been re-established minus the element of tobacco, he was able to work without smoking.

Coffee and tea, the other two drugs in everyday use, appear to act as mild general stimulants. A certain amount of doubt rests on that, however. In the first place, de-caffeinised coffee is enjoyed just as much as ordinary coffee, and tests seem to show no subjective discrimination. Secondly, in many communities strongly "addicted" to tea, this beverage is consumed in weak infusion. It is not improbable that coffee and tea play their part in society as (*a*) a rest pause such as forenoon coffee or afternoon tea, and (*b*) simply a hot drink. Experience shows that substitution or stoppage may be attended with much less deprivation reaction than in the case of alcohol or even tobacco. It is doubtful if tea and coffee consumption reveal much beyond the spacing out of the day's work ; on the other hand, alcohol and tobacco do tend to show a high correlation with the presence of fear, anxiety, worry, and tension.

Do the "jobs" and recreations and hobbies betray any dependence on specific drives or tendencies?

Mention has already been made of the relationship between vocation and avocation. Generally speaking, it would seem as if the amount and importance of recreation and hobby (avocation) is in inverse proportion to the extent to which the "job" may be classified as vocation. That is to say, professional men and scientists tend to telescope vocation and avocation, on account of the obvious factor of specially high interest, although this is not necessarily confined to this group. Broadly speaking, there are two extreme possibilities as to

occupation—one where there is enthusiasm and the other when there is the reverse. Between the two exist an infinite series of degrees of *pis aller*. In the first instance hobbies and recreations are liable to be unimportant or to represent merely the superabundant vigour of the well-endowed individual who is engaged in an occupation providing high satisfaction. At the other extreme is the individual for whom the life task is not accompanied by satisfaction and ease ; here the hobbies and recreations can reveal tendencies and capacities not utilised in the daily work. Not infrequently, however, this may be indirect, and simple inferences drawn from an accountant's interest in home carpentry may turn out to be misleading. The occupation, furthermore, may not lend itself to prolongation into the leisure hours as a hobby in the way that a scientist's may do. A grocer may, for example, enjoy his work and find high satisfaction in it due to, possibly, strong drives for identification with the community. Such a drive cannot be gratified by keeping his shop open till all hours but may well be the force behind communal activities in spare time of some other kind such as societies and groups of all types.

In this section opportunity is given for bringing together with vocation and avocation inter-personal elements involved. Infinite combination of these elements may be seen.

What is your type of choice and decision : clean cut or vacillating, deliberate or impulsive ? Your concept of repression ?

The daily business of living is inevitably a series of decisions occurring almost without intermission. A moment's scrutiny shows that a high percentage of acts may be carried out in alternate ways, and so on. Which door of the car shall we get out of? The one next the sidewalk because it is safer ; but here come two perambulators taking up the whole width. Or perhaps the other door because we have to cross the street anyhow ; but here comes a truck close against us. Situations such as this occur and recur constantly. They do not, however, as they might do, immobilise us in a vice of indecision. They do not do so because the attention is directed to the goal rather than to the means of reaching it—in this case crossing the street. Herein lies a vital point in regard to

choice and decision, the need for clarity in regard to means and end. The minor decisions of life are in respect of means, and there are as a rule several different "ways of doing it," each with something in its favour so that the choice, relatively unimportant, may be, for example, attitude or position determined. The less elastic the system of postures, the harder the decisions.

The problem of choice and decision is therefore one where definiteness is a product of clarity as to goal and its value for satisfaction well defined in one word as foresightedness. Too vague a vision of goal provides too little stimulus. Too clear a vision may through day-dream satisfaction stop all effort. It seems as if an intermediate stage were the most effective motivator.

Affective elements invariably enter into the situation. Individuals prone to anxiety are poor decision-makers on account of the inclination for chronic worrying tendencies to immobilise, *via* postural rigidities and tensions, and let matters take their course; or to produce avoidance of change lest worse befall and because of the reduction in available energy, and most importantly on account of interference with preliminary postures. Such people focus on the long climb, not the gaining of the summit. It is important to recognise that this is not a moralistic point. There is little doubt that the worrier grows easily fatigued, and when he does so his emotional discomfort further increases. Furthermore, it may generally be stated that existing satisfaction and the accompanying pleasure-feeling tone promote free decision for the future and conversely. Emotion may serve to prevent individuals from getting into a position where they may "see life steadily and see it whole." The over-emotional attitude may result in a special distribution of emphasis, which frequently leads not to a weighing down on one side or the other but to a too great and possibly unreal equality of pros and cons. Evidently the fundamental needs and their elaboration and organisation are back of choice and decision which should be scrutinised with this in mind, on the basis of specific instances. It should be recognised that individuals will therefore show a degree of variation and exhibit "more or less" decisiveness rather than absolute clean-cutness, or the reverse.

Choice and decision capacities therefore involve affective

elements and the nature of elaboration of the goal and its reaching as a vision of activity to come, and are served and determined by habit equipment and the general level of energy output.

The contrast of deliberation and impulsiveness has also to be looked at as a function of capacity to construct a proper vision of the future on the one hand and the drive for release of tension on the other. The latter feature is to some extent to be measured by the estimate of the degree of discomfort felt in the face of need for decision. This is the familiar phenomenon of the "itch" to rush at a situation and end it one way or the other, shown by the individual prone to feel the "suspense" element in a situation. In such positions the goal is again lost sight of, and the comfort of the subject is the operative factor. The question is one of immediacy, and so is at a relatively low level of subject integration.

Faced with the question, "What is your concept of repression?" many individuals tend to become entangled in the rather opposing ideas that repression is a restrictive and harmful process on the one hand, and on the other hand that evidently some factor of necessary self-control is implied. There is the further implication that there is "either-or" consciousness and not, as is more certain, "more or less" consciousness. The word has become one of the terms from psycho-analytic theory which have found their way into the vocabulary of the plain man, where they are used often incorrectly. In this special sense the word means a process whereby the memory of painful and unpleasant events is blotted out of consciousness as if it were either conscious or not conscious, and where the alleged psychic energy of such memories works in an indirect way to find expression in dreams, in uncomprehended acts, and in nervous symptoms. Support of this theory rests largely on a system of beliefs rather than on scientific method. Individuals generally remember quite clearly painful and unpleasant events—they are accessible to memory; to a varying degree the attached emotion diminishes with the passage of time. There is little real evidence to show that the painful and unpleasant are "forgotten" to any greater an extent than events of neutral or pleasant character. Anticipatory tensions, however, may be overlaid and later reappear in unclearly comprehended action.

It is necessary to be clear in regard to what is repressed. The process whereby the objective signs of emotion are prevented from appearing may be described as a form of repression. The free expression of emotion unaccompanied by adaptive action has no real meaning for life. As appetite comes with eating, so the unchecked outflow of tears or temper leads only to bigger and better outbursts as time goes on.

In another form repression is commonly thought of as the inhibition of some drive or need. On account of its rather compact and clearly biological nature, the sexual drive is often used as an example. It is essential to consider control, "repression," or suppression in its context as part of total personality function and as a factor for helping or hindering general adaptive function. The general assumption that repression is harmful must be weighed up without preconceived notions. Fundamentally the important factor is the subject's attitude to repression in regard to its rôle *vis-à-vis* impulse, and the resulting influence on decisiveness in his actual living.

What do you consider your equipment as to will-power (its rôle and mode of working in decision, determination, effort, perseverance), curiosity, initiative, originality? What is the rôle of impulse or of circumstance? What is the reaction to responsibility? What is the influence of personal standards and the standards of others, whose esteem is valued, operating as conscience? What is your concept of freedom?

The notion of will-power has long been uncritically accepted as a driving force, and has avoided definition by being of rather doubtful reality and by being accepted as a moral principle. The alcoholic addict in his repeated lapses is described as being weak-willed. It is seldom that his relentless persevering determination in pursuit of liquor is described as being evidence of strong will. It is so, however. Will-power need not be on the side of the angels. It is, in fact, a convenient term to describe the way in which and the extent to which all the personality assets and potential can be "beamed" or focused on an objective. "Where there's a will there's a way," expresses the profound truth that in a large proportion of human endeavour the whole powers of the individual are not being used. Conditioned reflex experiments with children,

for example, show quite different rates and systems of conditioning when there is the involvement of chocolate as a stimulus, and animals show the same phenomenon with food. Will-power is want-power. Clearly, such an entity is a highly complex one and best considered for what it represents in the way of subject organisation, with the special consideration of action sequences involving a rather definable end point, sometimes restricted.

Such direction as is possible would seem to be a function of symbolising capacity which could construct such a vision of benefits and satisfactions as to harness the action capabilities of the individual to the maximum. Needs, habits, and the sense of futurity are obviously all involved as part only of total factors at work. There has to be considered along with the sense of futurity the influence of this sense in promoting the toleration of delay in reaching the goal, the element of perseverance, and negation of the immature principle of insistence on immediate gratification of wish and impulse.

The status of the individual as regards will-power is to some extent a measure of the introduction of the satisfaction of old and elementary needs into the framework of the adaptations called for at later periods of development and in any given setting.

Curiosity occupies an interesting rôle, for it has come to signify in some contexts an unwarrantable scrutiny of the lives of others. Yet its derivation is simply an indication of the use of sensory equipment (from Latin *cura*, attention). Everyone accepts the curiosity of children and animals, both desirous of finding out all the adaptive demands of the whole setting. The diminution of this is tribute to the jealous guarding of the privacy of individual lives. Adult curiosity, unlike the charming and disarming directness of the child, has to find its answers by devious routes, and inquiringness generally tends to come under the ban of inquisitiveness. Consequent upon this, except in settings where specific research gives outlet, this fundamental drive to get all the environmental data is suppressed as invasion of privacy, resulting, it may be, in a general restriction of the grasp and contact with the environment. "It's none of my business" and "Live and let live" are often mixed-up principles of toleration and uninterestedness. Avoidance of curiosity specifically in inter-personal relation-

ships may lead to reduction of attention generally with consequent impoverishment of adaptive resources.

Other things being equal, the tendencies to "start something" (Initiative)—and to start something new (Originality)—depend on the feeding-in of data through the agency of curiosity and the chances so produced of formulation and re-formulation of environmental values. All this is probably what is subsumed under the general heading of "lively mindedness"; the fresh, inquiring scrutiny of the setting as if it were new, refusing to define anything as commonplace.

The rôle of *impulse* and *circumstance* in supplying "trigger energy" for trains of activity points directly, if we accept the terms naïvely as in their everyday meaning, to the relative influence of internal and external environment, not as acting separately but on a "more or less" basis. Behaviour sponsored by impulse will inevitably depend on tensions of affective diffusely regulative origin, but these may have complex origins in symbolising activities and be the expression of the operation of memory, association, and fancy. The starting point of impulse is frequently hard to identify, whereas behaviour sponsored by circumstance yields more readily to examination. Fundamentally the most workable criterion is the extent to which the behaviour pattern can be understood by the observer who is sharing the environment of the subject. "I could not see why he did it. It must have been an impulse," or, "I could quite understand him doing that in the circumstances." Evidently there is a social significance, made clearer if we consider the greater rôle of impulse in children.

It is gratuitous and unnecessary to invoke here the philosophers' scare of determinism *versus* free will. It is best to confine the observations to the subject's command of action and the direct issues arising out of it. The question of impulse and circumstance is one of the value and meaning of the environment in the "now," *vis-à-vis* its value and meaning in the context of the whole life-story. As pointed out above, it is a question of sharing out the responses to the setting so that "the other fellow" may be in on it.

These considerations apply to some extent to *responsibility*. Inherent in this word is the concept not of answering (responding), for answering originally held the notion of opposing, but of "promising again." The original is from

the Greek *spondai*, a treaty. It is a situation where the subject makes a treaty with society that he intends to keep, a treaty in regard to reaction to circumstance where there is general agreement as to the relative value of the elements making up the circumstance, *i.e.*, the conditions "standing around"—the environment, in short. Two important factors enter here. One is the general tendency of the subject to continue to view the setting of his promise in the same way as "the other fellows." It can happen that an individual might feel absolved from responsibility by some change in the setting, and that this might not be agreed to as valid by others. Second is the estimate by the subject of his adaptive potential in the face of possibly changing demands. Adaptive potential may be at the mercy of impulse as well as being conditioned by the general health, fatigue, and intellectual resources.

Finally, as a specific function of symbolising capacity whereby present and future are brought together now, we have to consider responsibility as a measure of ability to envisage future. Here responsibility and initiative mesh in with one another and must support one another along with the already discussed elements of will and perseverance. Initiative falls to the ground unless it is supported by a continuous drive, and this must be in part responsibility. Basically the responsibility level may be measured by the responsibilities the individual voluntarily assumes as well as by those laid on him by influences more belonging to society. Responsibility is not simply to be measured by responsibilities assumed, it should also be estimated by responsibilities the individual refuses to assume on a basis of appreciation of where it is all going to lead. The American humorist shrewdly and relevantly says : "I do not think the prudent one hastens to initiate a sequence of events which he lacks power to terminate" (Don Marquis). Responsibility must therefore be regarded positively and negatively as a measure of adaptive capacity where the claims of others play a constant part, modifying, and even restricting, the subject's freedom of action.

In general the student will draw from life a clearer proof of this by considering the social and inter-personal implications of irresponsibility, a concept rather meaningless if one considers the subject, *i.e.*, the individual alone.

Guidance by principles of *personal standards* or by the *esteem and regard of others* is a natural extension of the principle of responsibility. The question of identification with others here naturally comes into sharp focus. Personal standards of behaviour can only depend on needs and the way in which they have been squared with environment, so that even what are regarded as "personal" may yet really be environment-determined. Again, it is not either "personal" or "social" standards, it is rather "more or less" personal and social. The real point at issue is the extent to which the more personal standards, tied to need and habit, may be modified by changes in setting where the more environmental standards vary from the personal. The question is whether this happens readily or not, and the operative factor is the need felt by the subject for the approval of others. This need may or may not sweep away personal standards. Its tendency to do so or to be allowed to do so is inherent in the proverb, "When in Rome do as the Romans do." It must be emphasised that basically this is a function of the strong socialising tendency in humans rather than an endlessly arguable problem in ethics.

It is, for example, unrealistic to describe the criminal as being a bad member of society. He may be a good and law-abiding member of his own smaller society of fellow-criminals. On the other hand, there are examples of individuals rejecting the standards of an early setting and seeking and adhering to the new standards of a new setting, as a result of estimating rewards to be gained or satisfactions achieved. These gambits of behaviour are usefully scrutinised for what they yield in regard to inter-personal relationships in the family, and the way in which love and approval assisted in the organisation of the personality.

The concept of *freedom* also has its roots in the family situation. Drives and needs at early stages of life are as a rule fostered and helped by the parents, and especially the mother. Notably this applies importantly to the question of the supply of nourishment. Life being a continuum, the connection with this is never broken, and into such an elementary situation is built a rapidly multiplying set of trends and needs—all, however, tending to be with the grain or with the stream of family trends. Such is the beginning of socialised life, and so it goes on. The greater the parallelism between the subject's

living and the living of others in his setting, the greater is his sense of freedom.

In this country we speak of the "open road," and to be on it is associated with the idea of free movement and freedom. Our "open road," however, would be little better than a prison to the prairie dweller.

The concept of freedom is bound up not with limitation but with what is appreciated as limitation. It is possible that the question has its roots in the great primary feature, mentioned earlier, of the division into botanical and zoological where the criterion of the latter is movement. Since all minding is implicit and postponed activity, so therefore the idea of mental freedom cannot be far removed from notions of simple unrestricted movement of the body's levers. Deep in the notion of freedom is the idea of unrestricted use of personality assets to counter environmental demands. Naturally this is managed by the subject who weighs up his potential with what he feels he may expect from the environment. If they can be equated, then there can be a sense of freedom even if an observer would estimate some potential frustration.

The situation where the individual for some cause loses parallelism with society in his following of his own standards for freedom is naturally bound up with ideas of punishment and discipline.

There is a tendency for people to prescribe discipline for others but rather to avoid the medicine themselves. This is because discipline has come to mean exposure to rules—if not harsh, at least definitely restrictive, and all too often a punitive element creeps in. Too often it is forgotten that, etymologically, discipline is merely "training," and that biologically it should not step out of that rôle.

In regard to *punishment* the retributive element appears boldly. All punishment, it is safe to say, is related in some way to the *lex talionis*. The tendency to punish, however, may be reduced to a simpler formula than the complexities of sociology and ethics would ask.

Perhaps the most important single item in the environment of man is men. The vital process of adaptation has to take place, therefore, in relation to the highly plastic and dynamic entity, man, as well as to other elements. Assuming that there are certain general behaviour lines, it is obvious that it is easy for

one individual to form a partial obstacle to adaptations, actual and to come, of other individuals maybe with common aims. This is precisely the rôle of the criminal, the enemy of society as he is called, although he may have offended against one or two at most. Fundamentally, we wish to restrain others from interfering (*inter*, between, and *ferire*, to strike, i.e., striking between) with our adaptations to environment, direct or maybe quite indirect, and if numbers are involved then the concept of a society appears arrogating to itself the right to protect itself by imposing fear.

Individual experiences concerning the use of punishment must be placed against the general principle that neither punishment nor humans are unitary concepts.

Any evidence of lines of being over-conscientious or prone to worry with paralysing or stimulating effect? Any "spoiled child" or other undesirable reactions?

The "spoiled child" reaction is interpreted not seldom as evidence of insufficient discipline or punishment. This may or may not be the case. The "spoiled" reaction is typically one of failure to adjust quickly to frustration. Too often stigmatised as selfishness or something of the kind, it is, however, actually best seen and understood as evidence of persistence of the relatively rigid need systems of the young child (a good example is the rigidity in regard to food in the infant) into an age bracket where the looser, more interchangeable, and more elastic reactions, so protective against frustration block, and so typical of the mature human, begin to appear.

A similar rigidity in regard to performance, although leading to less friction, is seen in worry, over-conscientiousness, founded on the need for the affection and approval of others to compensate for dependency and fear. As a rule, the paralysing or stimulating effect is a measure of the intensity of the reaction, but this is subject to a very great variation, and in actual living may appear in reverse order. That is to say, mild worry may stimulate and acute worry paralyse, and conversely. It seems as if this sequence is conditioned by the constitutional background of the involuntary system, as in the same way some subjects pale and some redden with

anger. In addition, the analysis of the worrying situation which the individual is able to make and his estimate of adaptive capacity have to be juxtaposed with resulting vision of attainment, and the internal milieu changes inevitably resulting, with their effect in turn on the adaptive potential. Such a situation illustrates again compactly the holistic nature of human functions.

CHAPTER VI

THE TOPICAL PROCESSES AND ASSETS—*continued*

ORGANISATION OF COGNITIVE PROCESSES

Orientation with Potentially Delayed Action. Anticipatory Adjustments.
We have to face the world with individually very different equipment.

How do you rate yourself in comparison with nine others known to you in respect to : (a) aptitude in the learning or acquisition of mental and manual activities ; (b) retention and memory ; (c) associative resources and information ; (d) ability to systematise ; (e) clearness and complexity in thinking and planning (with subordination or over-emphasis of detail) ; (f) concrete action ; (g) executive ability ?

Have you any outstanding abilities ? Any special lines of initiative ?

Any peculiarities in sensory equipment affecting the above ?

What is your type of imagination ? Pictorial ? Verbal ?

APTITUDE in learning is naturally the very core of individuation (making an individual) ; it is essentially the organisation of the personality *vis-à-vis* what the environment has to offer. Aptitude is, of course, the capacity for showing adaptation, and in humans the inquiry has to include the details of development of speech and language function.

Faced with the requirement of estimating the learning capabilities, many individuals find it at once necessary to make provisos. It is usually stated that it was, or is, easier to learn some things than others. This at once uncovers two principal factors—motivation for the learning process, and what learning techniques were developed by teaching, with helpful or hindering results.

Clearly at a simple level, and everything solid must be based on such a level, the living creature which is in a state of equilibrium can never be induced to learn. But equilibrium, if it every really exists, is never more than temporary—instead there is a system of constantly changing tensions. All learning must be founded on the process of organising out of loosely arranged reflex possibilities new sequences of action, immediate

or delayed, having this one simple characteristic that they will pay, that they will lead to reduction of tension.

By "pay" is meant that the new action resource is going to add to the individual's adaptive potential, and, primarily, this would certainly have as its sign manual the increased comfort of the living from the point of view of internal milieu. Originally, therefore, learning is simply a special type of developed adaptation sponsored by disturbances in the internal milieu and tensions of both voluntary and involuntary muscle, due primarily to some external challenge of a probably recurring type. All depends on the nature of the challenge and the analysis of it carried out by the sensory and perceptual resources of the individual.

On this elementary principle, then, the motivation of learning is founded, "Is it worth while? What is there in it for me?" The possibility of complication and elaboration can well be left to the imagination. Gains, goals, satisfactions, releases of all sorts come to the driving force of the energy used up in learning, and these inevitably depend on the needs of the individual both inherent and modified by the setting, in their infinite metamorphoses that occur *pari passu* with change and development of individual and environment.

Behind all this the principle of curiosity is to be discovered prompting a diffuse and general tendency to explore the setting. Afterwards comes the tendency to manipulate the setting, specifically in skills involving the body levers as manual dexterity or as a delayed reaction in mentation. Curiosity and its organisation into chains of learned activity may naturally be stifled or fostered and the general adaptive function of the individual stunted or stimulated. Perhaps the importance of education rests less on what is learned than on instruction as to the best ways of learning. Educational systems generally are remote from the appreciation of this, but it has been the special strength of certain English schools and specifically the tutorial system at Oxford and Cambridge. For example, about 70 per cent. of individuals faced with the personality study state categorically that mathematics was their poorest subject. Further scrutiny shows that the date of the falling-off can be located, and this can often be demonstrated to be due to inattentive teaching.

The technique of learning can be fostered, it can be hindered,

and it can be left alone to develop "by the light of nature."

Uninterfered with in the child, the process of learning can be quite easily seen to show three trends. The first, and generally the earliest, is the hit-or-miss method, *the trial-and-error technique*. This method does fairly well with the relatively very simple learnings of early life. Its use for more complicated tasks has two dangers. First, waste of time and energy in blundering, and second, disturbance of the value of motivation by the blundering. Nevertheless, a great deal of learning is left to the care of trial and error with indifferent results. Trial-and-error experiments have been founded on the maze-running of rats, and it is to the credit of the investigators that few or no inferences for human behaviour have been drawn—except the hint given by the very superior performance of maze-running rats who knew there was food which they liked at the outlet—evidence of the value of motivation if, indeed, this very vague notion can be used.

At the same time the hit or miss and the trial or error continue to be a fundamental pattern of native learning tendencies. It is well illustrated by the well-known sequences experienced by everybody of finding the way around a ship, a cottage, or a city. The starting point is well known, the goal is known, between is a vagueness progressively reducing as the learning goes on. When from start to goal—say one's own cabin to the gymnasium—becomes a clearly defined track, but, what is more important, later on still when the gymnasium or one's own cabin can be reached without blunders from any point, then a system has been made based on sensorimotor orientative processes. To this system verbalisation brings its effect for general orientative purposes—upstairs, downstairs, right, left, and so on.

It is significant that trial-and-error methods should show a decided tendency to shade-off into *the system of the "Gestalt,"* of the "whole" as an entity. Trial and error do not necessarily produce a "whole" when success has been reached, there may be still some vagueness ; but at other times the fumblings of trial and error suddenly snap the setting into a comprehended whole. This rather sudden click into focus seems inherent. It is self-evident that it represents the relatively sudden combination of personality orientative possibilities.

The nervous system frequently works on an all-or-none basis, and the spread of a reflex occurs not gradually but by leaps, each a completed affair. The principle is the same. So also it should be remembered that humans do not respond to stimuli so much as to situations, and it is by grasping situations (*Gestalten*) that we see another modality of learning taking place.

The notion that practice makes perfection is only true if some other factors are added, the chief of which is motivation. Nevertheless, learning by rote and by the establishment of habit has a firmly established place, albeit one to which it is doubtfully entitled. Habit structure as a positional basis for non-habit activity is a different matter and has an almost exact neurological parallel. One may, as it were, execute varying dives off the same springboard. What we are here concerned with is the application to humans of the *conditioned response* investigations of Pavlov as an elaboration of habit formation. The basic difference between the conditioning type of learning with its push-button effect and natural habit is, firstly, rigidity and, secondly, a degree of unreality. It may well be that conditioning has its place, but the need for subjective reformulation is so great that unless it occurs, the learning, if indeed it may be called learning, has a very precarious hold on the general adaptive performance of the subject.

Out of these three techniques there emerge certain broad principles. Learning seems to take place *ad maximam* within the capacity of the individual's endowment provided that motivation is adequate and that the accumulation of the data of learning follows the broad common-sense line of laying down the general scheme first and filling in the details by degrees. The reverse process, beloved of teachers, destroys motivation by preventing formation of vision of goal, and reduces learning drive. And yet the true and best way to learn is to follow the way in which man as society has learned. A scrutiny of what man has learned of himself and his world through the ages and how it happened gives ready examples of trial and error, *Gestalt* formation, and conditioning, and shows how now one, now the other, and now all three were the instruments of discovery.

It is necessary, therefore, that before the subject can give a self-estimate of learning, he should know what his performance

has been when adequate motivation and good learning technique were present in the situation. Not infrequently, from this point of view, the capacity of the subject takes a different complexion and meaning.

Retention and memory consist of the extent and way of drawing on the range of information. Retention and remembering have to be thought of as two modalities of bringing up the past into the present, one by means of external direct cues and the other by means of cues indirectly related to what has to be remembered. The first naturally involves less verbalisation than the second.

Before the question of memory can be properly tackled, the nature of what is to be remembered has to be considered. When this is done the obvious fact comes into view that each individual appreciates situations (and anything less is an abstraction) if not through a glass darkly at least "through" all his previous experiences. That is to say, every fresh experience or situation or set of stimuli must have qualities relating it positively and negatively to the whole nexus of previous life experience. As life goes on in its unbroken context, the complexity of inter-relationship between memories must clearly become considerable.

If for any reason the life situation has in it factors whereby topics of any category are loaded or weighted with feeling, then obviously there will be a partisanship in recall because of connection with systems of needs and drives. It used to be commonplace for girls in rural communities to say "I must be in love" if they had slips of memory, thus paying tribute to the idea of emotional preoccupation interfering with memory.

A non-dogmatic attitude must be carefully preserved in regard also to the question of repression of both topics and emotions. The plain man knows very well that a painful event when it is fresh can use a large number of cues to get into remembrance and that considerable emotion accompanies it. Certain events, in the ordinary way, then occur ; first, the painful memory is not forced away, it is merely supplanted by other mental activities which are evoked, often with the express purpose of crowding out the painful memory. While this is happening the emotion persists, and the individual who now has other thoughts and other actions, emotionally

neutral or pleasant, is aware of emotional discomfort whenever thought or action begins to flag. The painful memory then returns. With the passage of time, the emotional cue becomes less and less effective until finally it disappears. When this happens, the painful memory can be recalled, *as has been the case throughout*, but when it is recalled the emotion is absent or diminished. Reference to acts of which one is ashamed, bereavements, and severe frights all confirm this simple everyday sequence of events.

The student of personality must note this, however, that in emotion we know that we are specifically dealing with a special act of disturbances of internal milieu and muscular tensions sponsored by the involuntary nervous system, and we know that the trend of life is to restore a balance so disturbed. We know that the balance may take time to be restored ("My knees were shaking for hours after the accident"), and the time of restoration must inevitably depend not on the person or the event but on the nature of the complex formed by union of individual and environment.

Experience with unconcussed railway accident victims illustrates this clearly. At first the accident is a crowding and constant memory by day and in dream, with frank emotional accompaniment and maybe considerable physical reaction. This is gradually reduced as mentioned above, and external cues, railway noises, etc., become less valid. Then comes a stage when there is remembrance by day without emotion but with emotion in sleep, either a direct recapitulation of the accident or as dreams with fear. Then the sleep becomes easy and emotion is reawakened only with very direct cues, such as entering a train, and finally equilibrium is restored. Throughout, memory for the accident is vivid and remains vivid—it is the emotion that dies away, is not driven away. This is an actual sequence from a serious railway accident. It is, therefore, to be seen that it is, at times anyhow, the affect that goes, and it is felt that a better understanding is reached by focusing on the physiological aspect of affect. The further implications of this have to be considered under anxiety, but it should be noted that the sequence in the victim of the railway accident can be duplicated many times and may be regarded as typical.

The efficiency of recall as modified by the drag of inter-

relationships between memories of experiences may be a cause of the evolution of the uncritically accepted idea of repression. This is because scrutiny shows that there is difficulty in recall, if that which is to be recalled has relations with other memories of other situations where there has been tension, as well as on account of its own emotional sign. Students, typically, have difficulty in recall of what is boring, worrying, and so on, but these emotions can often be shown to be due really to a fear of incapacity of mastering the subject, *i.e.*, fear of adaptive failure, and this leads to poor learning. Yet the complexity of human personality is such that any dogmatism in regard to the reasons for remembrance of this or forgetting of that is derisory. The most repellent memories may have pleasant associations and vice versa. The popularised idea of repression of a memory or an emotion or both, because they were unpleasant, is doubtfully valid as a general proposition on account of the obvious association between all ideas and the necessity for the widespread memory disturbance implied. The shutting off in this way of part of the personality assets as a dissociation in hysterical memory loss is confirmation of this, since the far-reaching disturbance in such conditions is well known, and it should be remembered that hysteria is pathological and not an example of normal remembering.

It is probable that St Augustine and Jean Jacques Rousseau only occupy their special rôle in our culture because they actually wrote down their thoughts. It seems likely that painful memories and unlawful thoughts are in the minds of all, quite unrepressed but reduced in power, since they are in competition with the crowding symbolisations preceding action sponsored by unavoidable obligation.

Yet another feature modifying memory is the original method and degree of learning and incorporation into the structure of the personality. The question of reformulation arises here. No piece of information can be spoken of as learned until the subject is able to formulate it in his own way. When this has been done, the subject has integrated the new set of elements or ideas into the pre-existing stock, and in consequence of this it is accessible through a larger number of cues or cross-references. An idea or set of ideas has been digested, assimilated, learned, and remembered when the subject can not only formulate it in his own words

but can reformulate it again and again in the process of "Let me put it another way," generally a sign that the subject has "got the hang of it."

Involved in the question of recall, as it is bound up with the setting of the original experience, the question of more or less consciousness appears. The most time-honoured illustration of the levels or degrees of consciousness is given in the description of two talkers walking on a crowded sidewalk, not paying attention to, and yet avoiding, other people. The avoidance of others, a complete sensorimotor experience, yet leaves little or no trace behind for memory, and there is obviously a constant stream of this type of activity and recollection of it is not in ordinary circumstances possible. There can be, therefore, sensorimotor events not leading to the possibility of their reformulation as primary or secondary symbolisation. They may be recalled, for example, in hypnosis where competition of memories is reduced, and this, it may be, has given a foundation for the concept of repression as an active dynamic process, a concept that is at best an oversimplification of the so far somewhat uncomprehended topic of forgetting and remembering. In the same way several people may all be present at the time of a loud sound. Some might be startled by it, but some might even be hardly said to experience it according to what type of person function was occurring at the time. This is best thought of in terms of collaboration of personality assets. When the degree of collaboration at the event has been high, retention and recall are high and the converse. By personality assets are specifically indicated, as well as the sensorimotor resources, the system of tensions and internal milieu changes typical of the individual as he has been moulded by environment, and the interests with their affective tinges. Retention and recall, it is suggested, are proportionate to the extent of the "draw" on the personality stock, as one might have power to draw on a bank account up to so much and another one have power to draw up to a greater or lesser amount. Degrees of "draw" will naturally depend on the chance of fulfilment of needs.

Similarly, experience suggests that memories undergo certain changes that have to be taken into account. First of all, all memory cannot take place in terms of primary or secondary symbolisation, since all experiences do not

lead to formulation in these terms and such a formulation will inevitably be wrong. This is a serious obstacle to the validity of the "memories" of the subject under psycho-analytic "free" association, since these are verbalisations of experiences which may suffer from the second of the two changes mentioned; namely, that there is a tendency to cram memory into patterns of what has happened before or after and make events resemble, when recalled, other events of the same order but otherwise dissimilar. Such an understandable tendency naturally is exaggerated into false memories—which make the giving of witness testimony such an unreliable affair—and also into hysterical memory disorders. It is perhaps unnecessary to point out that psycho-analytic association is inevitably not free since the analyst is present.

General-knowledge examinations have been in fashion for a considerable time; they represent a widespread tendency to hold the belief that the range of *associative resources and general information* is a clue to the intelligence level and personal ability of the subject. The designations "well-informed" and "knowledgeable" are regarded as compliments. The shrewdness of the plain man is here also evident, and the value of wideness of information is not only in its obvious usefulness but by inference in two ways. Firstly, the adaptive processes of the well-informed must be at a high level of efficiency and, secondly, rather conversely, high adaptiveness results in well-informedness. Furthermore, wide general knowledge indicates absence of restricted lines of preoccupation of the "one track" type due to emotional restraints and constraints—or to too rigid habit organisations obstructing or even resisting the entrance of new data.

The capacity to systematise, the clarity and complexity are closely linked with the efficiency of the learning and its resulting system of multiple formulation by the subject. Every situation consists of a number of elements, and it is a function of intelligence and memory to formulate situations distributing the emphasis in the appropriate way for the purpose in hand. In a sense this is a function of the ability of the subject to appreciate meaning (*i.e.*, potential activity) and also of the capacity to analyse and synthesise elements of situations. It is a question of wholes and parts.

So also clarity and complexity of thinking and planning

may only be clear or complex in the judgment of the other fellow. The question asked by the explainer is not "Is that clear?" but "Is that clear to you?" In this is evident the fundamentally social nature of thinking where the element of clarity depends on the formulation in terms of wholes or, if this is over-simplifying, in categories appreciable by the other. Over-emphasis on detail, it is interesting to observe, is the hall-mark of a situation where either the narrator is too strongly oriented towards himself and too little towards the hearer, evidence of low socialisation, or where the detail is necessary for the memorising as evidence of absence of the wide set of common denominators manipulated by the more powerful mind. A classical example of this is afforded by the writer Thackeray, whose grasp of general principles was only equalled by marked inability to remember detail.

The final expression of human adaptation is inevitably movement of the levers of the body. Thinking, minding, learning, and remembering, and so on are implicit action; movement of the levers of the body is overt action. The first should lead to the second sooner or later, personally or vicariously. *Concrete action and executive ability* are therefore the observable evidence of "minding." The extent to which this tends to happen in individuals is conditioned by just the factors of the satisfaction formula mentioned earlier. Fundamentally, action is the test of personality function. Meyer drives deeply into the foundations of all personality organisation and every sort of work with personality when he says, "We strive to enlarge our command of action, however modest."

The great contrast between primitive and immature cultures and older and more mature societies is in the uncritical over-evaluation of action on a basis of immediacy, leaving little to the patience of synthetic symbolisations. The Americans have long deplored their earlier tendencies to say, "We don't know where we're going but we're on our way." The same phenomenon may be observed in the commonplace of "Actions speak louder than words," and the interest of children in "doings" but not in sayings. The ability to balance overt and implicit activity is more than mere capacity for the overt, highly valued though the latter be in the idiom of the "go-getter."

A distinction has to be drawn between executive and

administrative ability. The hierarchy of the British Civil Service puts the Administrative grade, so called, at the head of affairs and superior to the executive. It is an interesting manifestation of the relationship between he who gives orders and he who carries them out. Such a dichotomy cannot exist within one individual, and actual carrying out of the plan must be possible. At the same time, the relationship between planning and doing is an important datum both for the individual and his inter-personal setting. It should be remembered that while planning and doing cannot be separated in one subject, yet they may form different qualities of different subjects. There is room for the planners and the doers. The doctrine that one should give no orders one could not carry out oneself is too simple for our complex society.

The subject's concept of his executive status must be considered against the basic truth that thinking, minding, or "mentation," as Meyer calls it, is delayed action. The executive level, the "doing" of the subject, should be regarded as the final outcome, the ultimate adaptation. In humans, as socialised creatures, the executive function has also to be considered as delegated or capable of being delegated, and this brings in the question of administrative and executive mentioned above. This relationship of administrative and executive may perhaps be thought of as a manifestation of the tendency in the organisation of personality to assume a hierarchical arrangement just as society tends to hierarchical stratification.

Together with these considerations the specific level of co-ordination should be assessed in regard to skill at games, in the use of tools, balance, gait, and adroitness and dexterity generally. It is here that handedness should be inquired into and the master eye determined. Obviously, if the master hand and the master eye are not on the same side, performance may be handicapped. This is readily established by test.

The process of imaging or imagining is fundamentally a recreation of past experience or the development of internal formulations of future possible experience as a function of the process of primary symbolisation. Inevitably, it can only occur in terms of the sensory assets of the individual, and the restriction of imagination to pictorial or verbal, auditory or visual is probably a simplification. It is necessary to include

the memory of movement as served by the kinæsthetic sense of position and movement and the rather complex set of sensations derived from internal structures.

It is in relation to this that two out of many factors emerge. One is that, as this matter is connected with learning, it is important to appreciate that kinæsthetic imaging occupies a specially valuable rôle. It is a commonplace that actually doing something is infinitely superior to any other way of learning it and also that the law of reformulation applies here also. That is to say, an individual may carry out a routine of movement fairly well (say the steps of a dance) while following a lead, etc., but will carry out the movements with greatly superior flexibility, modifiability, and adaptability as soon as the imaging of the movement has been built into the kinæsthetic memorial architecture of the individual. The same phenomenon has been observed in maze-running rats who had learned the maze. It seems as if kinæsthetic imagination on account of its specially close relationship with action occupies an important place in personality organisation and has rather a strong hold.

Very little variation in this seems to occur, and it seems as if kinæsthetic and visceral imaging were vivid rather generally. In regard to the latter it may be noticed that this may be vivid and durable. If any substance be ingested and produce visceral irritation or be ingested at a time when irritation is present from some other cause, then the taste of the substance will naturally recreate the situation ; but also the idea of the substance can forcibly reproduce the reaction, such as nausea. An extension of this is that the sight, smell, reading the name, hearing the name may, in addition, produce the same effect.

The attempt to sort out pictorial and auditory tendencies of imagination is unrewarding. Preliminary suggestions of preponderance tend to taper off in the direction of pictorial tendencies in certain respects and auditory in others. This seems in some way to depend on the quality not of the sensory element purely, but of the actual type of living experience liable to be bound up with the sensory event. The connection between the kinæsthetic and the visual is obvious, and consequently it is commonly seen that pictorial imaginers are people strongly oriented towards action, while auditory imaginers tend to the abstract. It must, however, be strongly

insisted on that anything like marked weighting in either direction is, firstly, rare and, secondly, evidence when it does occur, of a somewhat restricted personality organisation. One practical example of the general state of affairs is that the "Encyclopædia Britannica" has become steadily more illustrated as time has gone on and that the lack of a "Nouveau Petit Larousse Illustré" in English is constantly deplored. No one would ever seriously try to assert the superiority of a verbal description over a picture.

We must, however, not forget that the auditory or more verbal imagination does, in fact, offer more scope for "minding," whereas the pictorial may be restrictive and is naturally pursued by the personality organisation of the type rather unable to derive much from reading or action, but only from such rather simple adaptations as watching a cinema screen.

The practical value of an estimate of imaging is naturally the way in which it squares with the total adaptive demands of the setting, helping or not.

John Milton, in the poem on his blindness, speaks of "that one talent which 'tis death to hide." To speak of not hiding the talent as mobilisation of the assets and as recognition of *outstanding abilities and lines of initiative* is merely a terminological variation. The principle and the underlying truth of the original idea remain the same.

It is well to recognise the extent to which, human personality being an integrated whole, ability and initiative in regard to any specific activity may, if developed, spread out through total personality function. The general tendency seems to be in the direction of disregarding small items of capability rather precisely in terms of the parable quoted by Milton, regardless of their implications if developed.

One feature of importance is the value for inter-personal relationships as competition or collaboration or approval of the development of capacity. The estimate of personality is furthered by weighing up the presence or absence of the courage of being able to stand up to being "good at" only some little thing, the recognition of the talent, little though it be, and its vigorous use.

This aspect of personality is clearly modified greatly by environmental stimulus, and it opens up the question of

heredity. The continued brilliance of certain families suggests heredity, but when one reflects on the atmosphere of stimulus for the growing boy or girl in the home of a distinguished parent with multitudinous distinguished contacts, one has to take environment into account. Hereditary factors, however, must play a part, as is shown by the now classical studies of hereditary musical ability in the Bach family. It may be as Dr Folliot observed : " Education can give purposes but not powers " (T. L. Peacock : " Crotchet Castle ").

The biography of many subjects is, as it were, studded with episodes of special skills which have disappeared or have been unused, and the scrutiny of this is relevant to the system of drives and needs as well as to the examination of capacities in the present and the fate of those no longer on the scene.

Adaptive potential inevitably depends first on *sensory equipment*, since sensation is the beginning of the adaptive sequence. The whole tenor of an individual's life may well be modified by his motor resources, and these may obviously be part hereditarily and part environmentally determined. The American young man of to-day is, on the whole, bigger than his immigrant father, just on account of the nutritional environmental factors. This is not so specifically true of sensory endowment, both in regard to distance receptors of vision and hearing and receptors in the skin and in the body. Especially the distance receptors and the sense of position and movement are so specifically bound up, the one with praxis and skills and the others with language function, and they are so relatively uninfluenced by environment, nutrition, and scope that they tend to form a static boundary to certain lines of adaptation.

The classical prototype is found in the colour-blind boy who wants to be a sailor. Here is a flatly hereditary sensory handicap impossible of modification or circumvention.

Consideration of such a situation reveals that sensory endowment can be used for adaptation and also that the nature of the sensory endowment must be integrated into the general integration of the subject and itself adapted to. The modifiability of sensorimotor resources is truly a feature of the assets that is usefully brought to test and conclusion.

Have you ever had a rating with an intelligence test? With what result? Any other ratings? How many digits do you retain?

Intelligence has been defined as mental stature. It is a term indicating essentially the efficiency, less or more, of adaptive function.

We do not readily associate low intelligence with movement disabilities. Poor kinæsthesia, relative inadequacy of the sense of position and movement may make us describe a person as "clumsy," but we do not necessarily imply low intelligence. For that we must say "clumsy and stupid." Other movement handicaps can obviously have a rather special effect on adaptation inasmuch as that the subject, unable to carry out the adaptive movement, may or may not be able to use language to describe what he would do if he could. This would be the contrast between, for example, a subject who has lost the use of a limb through injury, one who has lost it as a result of a cerebral stroke, and one who has lost it together with some language function. The ordinary observer's estimate of intelligence will clearly vary in such examples. Movement disability tends towards emotional repercussions.

On the other hand, sensory deprivation may have but slight influence, as is well shown by the remarkable and widely known history of Helen Keller, or it may apparently reduce intelligence but only as educational retardation.

It therefore is inescapable that what we may call intelligence is chiefly a measure of the extent to which the connector nervous material, working in terms of primary and secondary symbolisation, can manipulate, combine, break up, and recombine the constituent stimuli going to make up a situation. It is in terms of experiences and situations, not relatively discrete stimuli, that life impinges on the subject, and it is this factor that will always make the intelligence test and its items somewhat unreliable on account of their inevitably restricted scope.

The real measure of intelligence can only be seen as the most efficient adaptation to a situation in terms of the needs and so on of the subject. No intelligence test can hope to parallel this to order, and consequently all intelligence tests must be some sort of substitute for an actual life event or events, a hard assignment, difficult to fulfil, if not in reality impossible.

Intelligence tests, however, do tend to be used in order to measure certain capacities of a type necessary for the kind of learning required during the formal educational process, and it must be remembered that of necessity the major emphasis in education is on the verbal. It is consequently in estimating the educational potential of the subject that intelligence tests find their most sure application. Elsewhere they must be used with caution. Yet it must be remembered that certain intelligence tests are reasonably reliable estimates of educability, and that educational prowess and the ability to take first-class honours and pass well in examinations has given Britain in the past an enormous number of very able and distinguished public servants in comparison with the relatively few ultra "brainy" personality misfits. *Mens sana in corpore sano* can cut both ways.

The classical basis of intelligence tests is the well-known Binet-Simon set of tests elaborated in France at the beginning of this century. Primarily this test estimates intellectual and educational attainments, but it includes items of wider reference as well. The original work of Binet and Simon has undergone modifications and revisions by, amongst others, Terman and Herring. The scheme of the latter, extensively used in this country, begins with a group of four tests involving (1) analysis of situations in pictures, (2) reproduction of details of description of a set of events, (3) comprehension of numeral systems, (4) retention of digits backwards. From one point of view it may be said that tests merely estimate the capabilities required for the test and may not justify general inferences.

To tests such as these have been added a large number of tests involving simple motor skills, such as tests with wooden blocks to be fitted in certain ways, non-verbal tests of pattern completion, and highly complex tests such as the Rorschach ink-blot test. The last, as being quite non-derivative, is a stimulus situation constituting a basis for an observation of the way in which the primary symbolising resources of the individual are organised. It is probable that the oddly shaped and symmetrical ink blots of Rorschach offer a *point d'appui* for symbolisation tendencies yielding a 'clue to the general potentialities of the individual.

On the other hand, there is considerable belief in the value of size of vocabulary as one of the most important single tests of intelligence. This would be rather strongly supported by the

obvious importance of language as an integral part of all social adaptations. Everyone is familiar with statements as to the relative size of Shakespeare's vocabulary and that of the ordinary man.

Other ratings than that of the intelligence test have been multiplied during the war of 1939-45 for personnel selection. These tests are typified by the technique of the interview, the country house week-end for observation, and the leaderless group of half a dozen or so men asked to perform some joint task. They are regarded as tests of personality, but they contain also the principle of adaptive potentialities with involvement of others, and in this respect they are closer to life. The number of reactions in leaderless groups is almost uncountable. It would be important to put alongside each other the actual performance and the symbolisation. For example, there would be the subject who could visualise the means of completing the task but was unable to obtain control of the group. The reverse process is, of course, readily and constantly observed.

The retention of digits forms a part of most intelligence tests, and is valuable inasmuch as it is a fair estimate of the span of attention and the ability to retain. Seven or eight digits forwards is average. Nine digits backwards is reckoned to be superior performance.

It should be borne in mind that all the tests of intelligence vary widely in result according to the conditions in which they are used and the state of the subject. Fatigue, emotion, and preoccupation all vitiate test results to a serious degree. This is particularly true of the testing of children.

In order to obtain an evaluation of the rôle of your education, tabulate a list of your school and university subjects as follows :

<i>Course.</i>	<i>Interest.</i>	<i>Aptitude.</i>	<i>Spontaneous Extra Work.</i>	<i>Success.</i>	
				<i>Own Rating.</i>	<i>Actual Marks.</i>

Scrutiny of the education in this way may show interesting developments of trends and their fate, often dependent on apparently rather fortuitous factors. The initial letter of a child's surname may send him or her to a poor teacher rather

than a good one, and a potential mathematician may be lost, as so many are, as a result of bad teaching.

The arousal of interest, it may well be, is more of a reality than aptitude. Most of the real advances of psychology along sound lines of biological investigation point away from aptitude towards interest. If there is interest, then the weight of personality assets thrown in is enormous compared with a situation of non-interest. Interest and aptitude co-exist, the concept of aptitude without interest is less real.

Consequently the target of observation is most valuably the question of the study of educational interests, how aroused, and what degree of orientation towards the topic existed before education got around to the topic. Personal contacts and environmental factors influence these to a great extent. Data are accumulated in school and college, but also out of these spheres.

There tends to be, throughout educational life, a rise and fall of importance of topics and changes of interest dependent on several elements : firstly, general environmental factors, inter-personal relationships in the family and its immediate circle ; secondly, the capturing of interest by teachers ; and thirdly, the vision of final occupational placing. It should be remembered that behind all this is the motive force of fundamental needs of the personality, changing or unchanging.

The item of comparison of self-rating and the examiner's estimate is well known. The examinee who does better than he expected is in a happier case for himself and those who watch him than he who gives himself a higher rating than the examiner. It is an example of self-estimate *vis-à-vis* the estimate of others. The value of this principle for society is illustrated by the way in which modesty as to capacity has been made an article of faith in the British public school code, and is regarded as hypocritical falsity by other nationalities.

Enumerate in annotations the factors determining any outstanding success or failure. To what extent does this throw light on pattern of temperament, direction and range of interests, energy and endurance, periods of staleness and of freshness, special endowments, special difficulties? Can you make any generalisation? What emotions and trends can you see at work?

The question of success or failure is one of standards of measurement and comparison, and remains relative. It is

also an extension of the earlier query as to self-rating and examiner-rating. Repeatedly the subjective estimate of degree of success is markedly different from that of an observer. Both will measure the event against pre-existing and personal standards. Real values are hard to come at. The recognition of this is an important step in the general direction of the ever-unattainable truth. Estimate of success must be correlated with fundamental standards.

Successes and failures first of all can be separated into the purely individual and the social, and several points arise. First is the question of the rôle of success as equivalent to the satisfaction of a need. Second is the necessity for social approval of an event or performance before it can be regarded by the subject as success. This is subject to modification. Social approval may not be valued. Society as far as the subject is concerned may be a small special group. Third is the question whether or not social approval would in itself be success.

Obviously it is best to try for something like a definition, and as a rule it emerges that success seems to be identified with completion of performance asked for by a challenge from the environment, which has been taken up by the subject. Challenges are only taken up if they evoke a response, and such can probably occur most certainly from fundamental need. It is probable that the notion of completion is a relative one, since the experiences of life are naturally never discrete.

The situation in regard to failure is again one of adaptation. It should be remembered that human living is in one way devoted to the principle of payment by results, and that in the private personal analysis of success and failure the blunt question, "Is this getting me anywhere?" is asked. It is not necessary that this query be regarded as materialistic, however; the goal may be as readily abstract as concrete.

Again, it must be borne in mind that human living is a continuum from birth to death, and that success and failure cannot always safely be estimated in the light of the situation in the "now." The subject who is carrying out the study must in a small way have the historian's point of view. The successes and failures of the past do not always seem so clearly positive and negative in distant perspective. It is, however, this undoubted continued effect that has to be taken into

account in modifying estimates of success and failure and activity leading to the chance of the former.

When the question of activity is invoked, the actual sensorimotor resources have to be considered. Alterations in the adequacy of these in the form of changes in sharpness of sensory appreciation and the greater or lesser vigour of motor resources will naturally influence success and non-success as part of adaptive effectiveness generally. Such changes may or may not be easily or adequately accounted for, and it must be considered which comes first in reality—the reductions in sensorimotor adaptive potential or the withdrawal of interest.

Furthermore, no success or failure can be considered on its own, it must be taken in context as part of the biography and specifically as part of the system of really formulated goals rather than vague aims.

Nothing succeeds like success. It is interesting to observe that etymologically the essence of this word is in the notion of sequence, of continuity. It is therefore probable that success should not be thought of in terms of isolated triumphs but as the steady flow of adaptations without check or hold-up. This, too, should be noted that the notion of smooth continuity is instinct in the idea of life. Check, stoppage, hold up are the antithesis of this, and therefore flatly unbiological. The biological aspect may easily be pushed further, for it is most probable that success and failure are affairs of adequate organisation of postures and tension, arranged in a system of more or less fluidity and versatility from subject to subject.

On the basis of this tentative sketch of some points in connection with possible aspects of succeeding and failing, the pattern of the subject's management of the continuity principle may be seen. The general standards and the interpretations of the earlier-mentioned query, "Is this getting me anywhere?" can be amplified as temperament.

Once more, inevitably, the question of goals and futurity insists on entry and demands re-examination.

Do you feel that your choice of school and subsequent training and your performance therein satisfactorily express the characteristics of your personality? What would you consider the better measure? What concrete examples of situations and experiences

would you preferably single out as typical of training in intellectual and physical activities? What would you consider your most correct and telling measure of attainment?

In considering this, special regard must be maintained for the position of the subject at the time of the query and the general maturity level.

Few, indeed, are those who never said or thought, "If I had my time over again I would arrange my programme in another way." In expressing this view, of course, the assumption is that the individual of 40, with the experiences of 40, wishes to be confronted with the problems of age 20. Meyer used to ask his students how an adult cat would behave if it could be built up, cell by cell, in the present, rather than growing up.

The continuous development of personality occurs at rather varying rates, and seems as it were again, as is seen in the action of the nervous system, *per saltum* and not *gradatim*. Sudden little leaps on to fresh attitudes and positions seem quite specific in the "live" individual. The absence of this and its reduction seem by observation to belong to the impoverished personalities and to some, but by no means all, of the ageing.

Generally speaking, we see three attitudes, singly or in combination. First, the notion that early study and training programmes did not at all give scope to the personality's needs and trends. This may argue marked alterations in the orientation to the environment and even some unsteadiness in orientation. Secondly, the idea that the same programme could be held but with more emphasis—usually quite simply expressed as a wish that more work had been done—or with alteration in the distribution of the emphasis. Thirdly, the confidence that the study and training offered satisfaction, and this must be carefully scrutinised for confirmation by the light of subsequent performance. It is the question of "I never did myself justice" that has to be examined and a direct "Why?" pointed at it, because the interferences preventing "doing justice" are, as a rule, data of considerable importance. They consist of competing preoccupations subsequently turning out to lead to the accumulation of lumber merely, and not assets.

The sorting out of competing elements so as to build out of them an expression of personality is, the function of maturing, a process hard to define. It is a matter of no puzzlement to the plain man, however, for he can at any rate in his own way identify maturity, which for him is exemplified by the exhibition of emotional stability, objectivity, and knowledgeability.

Maturing, like all else, has to be considered as, first, the capacity of the individual to mature and, secondly, the environmental factors fostering the maturation process. That these two are arranged in an equipotential system is the view now generally held. Countless experiments from the early pigeon tests described by Macdougall to the later tadpole investigations show that "mature" flying and swimming are not due to practice. Other experiments on the mouse-catching potentialities of kittens show that these are not necessarily age-bound. We must not assume too much from animal experiments, although speed of learning in school children and determined young adults shows rather striking and significant differences.

Individual differences in maturity may be confused with sophistication. The question finally resolves itself into the matter of experience (Latin *ex*, out of, and *periri*, to go through). The expert is etymologically the experienced one, the subject who has emerged from, come out of, gone through something, and who has been modified by it. "I know," is the plain man's phrase; "I've been through it myself." In the north-east of Scotland "a through-come" is an experience.

We rate experience highly, and rightly so. The 18-year-old who has seen much and made rich contacts will inevitably appear, and may in fact be, more mature than an adolescent in a simple and restricted circle.

Yet this is not all. Not only must the subject profit by experience in the sense of training along lines of conduct, but he must also be able to extract from experiential processes their general underlying principles. Failure to do this produces merely the superficial and fundamentally restricted sophistication of the adolescent, whose more general maturity level may actually be low.

The query of this section is directed to a scrutiny of the

subject's estimate of his most telling and effective adaptations during the preparatory years, and to the way in which the setting during that period offered scope to the natural drives. It is here that the success or failure of choice of training programme and its associated activities can be seen. It is also the item where can be expressed the degree of vocational and other guidance, accepted or not, to which the subject was exposed, and the influence of teachers and the capacity to recognise and accept the influence.

To what extent do you think your future behaviour and satisfaction or ability to understand and cope with situations can be predicted? Can you single out factors apt to make for special success or waste?

Here, again, the degree of ability to profit by experience or, more simply, to become experienced, to be able properly to take the impress of life, is the answer.

In general the assumption of adequate future adaptation is not a preoccupation. It almost seems as if absence of thought on this point were the best indication of capacity. Subjects who give clear evidence of thinking about this problem show also that they evaluate incorrectly the possibilities and probabilities of the future. This appears as over-confidence or under-confidence. The estimation of future situations depends not directly on the nature of past events but on their experiential value for the subject, i.e., the extent to which he has been able to establish something like generalisations as a result of what has happened to him. It also depends on the way in which fancy and memory combine to construct, as primary symbolisation, imaginings of the shape of things to come.

Foresight is inevitably part of human personality function, and it is naturally bound up with primary and secondary symbolisation—the latter, of course, partly economising and partly social. The greater the element of emotion, the less likely is the forecast to be correct and adaptation adequate. The plain man knows that some individuals, whom he calls *cocksure*, go optimistically up to a situation, underestimating its difficulty and unprepared, and fail. Others approach with doubt and fear, exhausted with anticipation, and rattled.

They, too, fail. And yet but slight reduction of these two attitudes may lead to success—the one from confidence, the other from care. This matter of future adequacy is inherent in the topic of anxiety, and must be discussed later.

Basically, this whole question depends not only on the estimates of the situations calling for adaptation but also on the subject's adaptation potential, actual and self-estimated. This in turn is bound up with the action possibilities and energy output of the subject. Action and energy are reduced by disproportionate tension interfering with voluntary movement and with its support from internal milieu.

Prediction of success or satisfaction cannot be based on specific situations in the past, for no set of circumstances can ever be "the same as last time." They can only be based on the formulation of the lowest common denominator, and this is a function of language in its capacity to make generalisations.

Consideration of future adaptive chances must occur on this basis. It is the formulation stage of the observation-formulation test sequence of scientific method. Action, the actual adaptation, is the test stage.

In the same way the isolating of factors making for success or non-success can only be adequately arrived at along lines of general principles. It is interesting to observe that the verbalising function is helpful here because of the holophrastic structure of our language, where the verb "to cut" may mean to cut anything, in contrast to more primitive tongues demanding a different verb for every type of cutting. It is in this way that those generalisations can be made, without which the subject has no stable guide or measure.

CHAPTER VII

RANGE AND FLUCTUATION OF FITNESS WITH REGARD TO THE RATIO OF WORK, PLAY, REST, AND SLEEP

EVERYBODY knows the simple calculation that divides the twenty-four hours' cycle into three : eight hours for work, eight hours for relaxation, active or passive, and eight hours for sleep. In the main, humans adhere to it ; but the core of the programme is the tendency more or less only to function comfortably if approximately a third of the cycle is given over to sleep or rest.

A moment's reflection shows that this is a very singular thing, indeed linking us with no less an affair than the whole march of the sidereal system in one way and yet a personal rhythm in another, in that our human ratio is independent of season, apart from the rather small seasonal variations bound up with length of daylight hours and often leading to trouble.

That time seems to pass more quickly when the emotional tone is pleasant is well known. Experiment shows also that subjective estimate of passage of time varies with heart-rate. Subjects with rapid heart-rate underestimated a time span, and subjects with slow heart-rate overestimated it.

Subjective estimate of time apart, and individual variations being allowed for, it still remains that for adults about a third of the twenty-four hours' cycle tends to be spent in that special modality of relationship with environment called sleep. This is the fixed factor. The other sixteen hours may be parcelled out in any way.

The clue to the parcelling is in the widespread use of the word "relaxation," slackening. This word would not be used unless it expressed a need and affirmed the existence of its counterpart, tension, derived from stretching and aiming at a goal. It serves to confirm what physiology has established, that activity is inclined to be associated with tensions and that for harmony and continuity of the general life programme these tensions must be interrupted from time to time.

It is not too much of a *petitio principii* to ask that Work, Play, and Rest be defined. For a happy few the work is identifiable with play, but for the most part work is activity with more or less tension. Play or relaxation is activity with more or less absence of tension. This is very well illustrated by business men's week-end golf, varying inversely in success with the degree of tension. The relaxed individual inevitably co-ordinates better, and so plays better. It is a question of a different integrative pattern.

Rest, on the other hand, is specifically a situation where voluntary musculature is not in use. In order to be useful for adaptation, rest, *i.e.*, relative motionlessness, must be accompanied by relaxation. Motionlessness with tension is un-economic. Experiment shows that in such states the voluntary musculature is, in fact, not relaxed.

Here we see adaptive processes anew, this time as the expression of a balance between specially reduced activity called *sleep*, which pre-empts insistently more or less one-third of the diurnal cycle, leaving two-thirds to a slightly less reduced activity than sleep called *rest*; to activity with less rather than more tension called *play* or *relaxation*, and to activity with more rather than less tension called *work*.

The reconciliation of these is one of the many expressions of subject organisation and the most useful feature of which in this connection is the reduction of the tensions in the work period. With this is obviously bound up the question of intellectual adequacy and adequacy of motor skills, primarily sense-dependent, not forgetting the proprioceptive inflow as part of this.

The level of adaptive performance will clearly depend on such reconciliation, and it can here be made the object of simple and practical formulation of how the day's cycles are organised.

(1) *Sleep—the Usual Curve (Time and Depth) Effects of Variations.*

What is the type of your dreams (pictorial, auditory, emotional, strange)? How much evidence of being wish-fulfilling? How frequent and with what effect?

The assumption that stupid people require more sleep than others is supported by a presumably ancient formula that

men need eight, women nine, and fools ten hours' sleep. It is not supported by investigation of sleep in feeble-minded subjects, and, although certain of the intellectual giants of the past habitually managed well with four or five hours' sleep, there is no direct correlation. This may be said, however ; the higher the intelligence the less tension (other things being equal) there will be at the work. When this is so, everybody knows there is less need for relaxation and there is also less need for sleep.

It is important to recognise that people who are on holiday and spending much energy in activity which is enjoyed, and therefore free from tension, do with less sleep than at home and at their work, or, on the other hand, sleep more soundly.

Study of the sleeping habits of ordinary people shows that it is hard to establish a direct connection between physical or mental fatigue and the need for sleep. It is so commonly seen that in the presence of sleepiness and fatigue, if gratification of a need is offered, the desire for sleep disappears, as does also the fatigue.

On the other hand, the presence of high tensions and unpleasant emotion understandably produce desire for oblivion in the form of sleep and, at the same time, very often inability to sleep.

Modern neurophysiology suggests that sleep is a type of inhibition of the cortical function spreading from a centre of the mid-brain, rhythmically as part of the rhythm of all living creatures, and assisted in certain circumstances by an arranged reduction of as much sensory inflow as possible : the warm soft bed, the quiet darkened room.

Two facts have to be taken into account. First, primary and secondary symbolising function is, during sleep, materially reduced ; but to a very variable extent and sense-dependent in a restricted way. Secondly, it has long been known that good sleep is a state when the more inhibiting section of the involuntary nervous system is mostly supreme and the excitor section relatively quiet.

Symbolising function, with its specific rôle of adumbrating action (precisely as movement of the body levers), naturally causes a constant flickering response of varying degrees of preparedness and tension in the entire organism. The internal milieu is thus in constant change ; involuntary and voluntary

musculature are for the most part in unceasing, although very variable, activity. This is the work of the excitor section of the involuntary nervous system (the thoraco-lumbar outflow), and, balanced by the inhibitor section (cranio-sacral), it is in action, less or more, during the waking hours, taking constant toll of nutritional and tissue resources.

Whatever else remains to be discovered about the nature of sleep, this much we know : it is a state where symbolising function is reduced, changed into dreams, or absent ; it is a state where, as a consequence or not, the cranio-sacral innervation is active ; it is, therefore, a state where the internal milieu is at its maximum stability and where the work of maintaining it stable (homeostasis) is at the minimum. In view of the now well-understood rôle of homeostasis, this seems significant, but we cannot yet draw inferences and must await more facts.

Such additional evidence as exists points in the same direction, however, for it has been shown that dreams coincide with stomach movements (sponsored by the thoraco-lumbar excitor nerves). This is therefore a converse. Symbolising activity (dreams) and thoraco-lumbar stimulation form the counterpart of dreamless sleep (no symbolising) and cranio-sacral stimulation. It is greatly to be doubted if either of these ever exists in pure form.

The only criterion of satisfactory sleep is the degree of refreshment. In some people this is present at the moment of waking, in others it makes its appearance later. The generalised devotion to the newspapers at breakfast suggests that the feeling of refreshment does not come at once in a large number of people. No hard-and-fast rule can be laid down. The feeling of refreshment may appear earlier or later, and it is a question of programme and adaptation if the time of its appearance can be accepted calmly or not.

The feeling of freshness is to some extent bound up with the two groups of sleep types : those who sleep deeply soon after going to bed and those who sleep deeply much later in the night. The former type naturally wake fresh. In the same way the latter wake with discomfort and often distress. The former type represent a quick relaxation, the latter a slow relaxation. There is little difficulty in observing that the slow relaxers have more to relax. This is borne out by the

sleep of children who belong in high proportion to the quick relaxers.

Sleep as a natural function enjoys the veneration accorded to such. Individuals make estimates about their sleep needs, but also in regard to their sleep entitlement. The latter, perhaps a measure of desire for getting away from adaptive responsibilities, is often more liberal than the former. Any interference with sleep is regarded with a jealous eye. Literature and common speech are full of references to sleep just as they are to hunger, thirst, and love.

It is probable that we do not require as much sleep as we think, and this would be supported by direct evidence from many individuals in our culture whose sleep is broken and brief and who yet show no physical or mental deterioration. It is, however, as fallacious to overdo this view as its converse, because deficiency in sleep may disturb adaptive function. It may do this directly to a limited extent, as has been repeatedly shown by soldiers on forced marches who have shown ability to keep going with short irregular spells of deep sleep. On the other hand, adaptation may be seriously impaired by preoccupation with sleep, which for some reasons is being regarded as inadequate or unsatisfactory.

Good habits of sleep are an asset. They depend on a sound attitude of mind in regard to sleep, such as is shown by absence of the common preoccupation with sleep that leads to a daily breakfast-table post mortem on the previous night's sleep. The commonness of passing references to sleep shows the tendencies of humans in this direction.

Good habits depend also on regularity with elasticity in regard to programme and time of going to bed and, above all, on absence of doubt as to whether sleep will come or not. Everybody is familiar with the formulation of sleep, more elusive the more pursued. The plain fact is, however, that as the day is passed, and as the day to come is envisaged, so is the night. The effectiveness of the day's adaptations are reflected in the nature of the sleep. "Sleek-headed men and such as sleep o' nights" prepare, as it were, for the night by their management of the day.

There is little doubt that it is the reaction to the variations in sleep rather than the variations themselves that is the important factor for personality function. It is the presence

or absence of empty harping on a night that is past that is the operative factor.

Like many only partly voluntary functions, sleep is always disturbed by doubt. Digestion, micturition, defecation, sex function are other examples. The simple arithmetic of deficient sleep at one time being made up at another is not so readily accepted as it deserves to be.

Dreams are symbolising activity carried on during sleep, and there is physiologically guaranteed evidence to show that they are associated with muscular tensions both of involuntary and voluntary muscle. The physiological state of the individual is woven into the dreams. The subject too hot or too cold, hungry or thirsty will have dreams to suit, and it related that polar explorers short of food were tormented by dreams of laden tables. In the same way people who go to bed in a setting of difficult work have typical dreams of "fixing" something that will not stay fixed. Where there is a heightening of general tensions, evidently this continues in the sleep, producing dreams of exertion.

It seems as if the dreams are influenced by those tensions associated with internal milieu changes that motivate so much of human activity generally, and that the response is chiefly in terms of symbolising function. Dream, as a response to tensions, shows reduction in the sensory and motor components which characterise waking adaptations to tonus changes. The two-way inter-relationship between tensions and symbolising activity evidently exists in dreams as in waking, but with less competition, or perhaps collaboration, from other personality functions.

Dreams may well be considered not as something discrete but, like consciousness, an affair of more or less and part of the sequence from imagination and fancy to reverie and day-dream to the dreams of the after-lunch forty winks enjoyer who is still in touch with his setting, and so on into dreams in sleep. There is no hard-and-fast line.

It is a matter of common knowledge that, as one progresses from imagination to fancy to sleep dreams, the content of the symbolisation becomes progressively more loose, disjointed, and dissimilar from symbolising in the waking state. It is also inescapable that, as far as the subject is concerned, the influence of environment is undergoing a progressive change from direct

to indirect response and is, generally, being reduced. Together with this is naturally observed a peculiar incoherence in the associations and in the story of the dream. The story of a day-dream is frequently a connected story along flat, wish-fulfilment lines, and only admitted to by our few Rousseaus. The day-dream does very often show not fully admitted desires and a knowledge of it is useful.

It is open to a good deal of question whether the sleep dream is as useful for interpretation. The views of psycho-analytic theory are, it is well known, that the dream is the disguised expression of a wish irreconcilable with the standards and ethics of the personality. The wish must assume a disguise lest it so horrify the dreamer as to waken him. The rather touching assumption that humans are all so tender as to be horrified by their less respectable impulses can hardly be seriously entertained, and the fact that anxiety dreams seldom fail to waken the dreamer does not support this dogma.

The rôle of sensation in dreams is different from the function of sensation in waking in a way which requires scrutiny. First of all, although sensation is deliberately reduced as far as possible, the only sense actually obstructed is vision. All the other sensory avenues remain open. Quite evidently they influence symbolising function in dream just as they influence symbolising function in waking, but with the special differences of particular selectivity (the mother only wakens to her child's cry) and special interpretation (the telephone's ring finds its place in the dream as some other bell). These phenomena are well known, and they can only indicate sleep and dreams as a special modality of person function with reduction in sensory response, symbolic elaboration, and motor activity in a special setting of disorientation and lowering of awareness. One of the hall-marks of this reaction is the presence of ready reversibility in waking.

It is tempting to speculate on what would happen in dreams if the other receptors could be "closed" as the eyes are closed. Certainly it is so that dreams are mostly visual. Dreams with auditory, skin, muscle, and internal receptor elements usually waken the sleeper. So also do emotional dreams of all sorts. It is rarer, but it happens, that subjects waken laughing gleefully at some delightful joke (which turns out to be pretty mild) just as they waken in distress at a sad or

harrowing dream. The same effect is produced by the crazy and bizarre dreams of the imaginative subject.

Experience shows that on the whole it is best to regard dreams as members of a sequence and as specifically of the same order as day-dreams, for there is little guarantee for the fragmentation of human life. Seen in this way, dreams appear to have a relationship to the waking adaptive level, both as day-dreams and sleep dreams and dreams in states of doze.

That symbolisation occurring in these circumstances should fulfil a wish is only in line with all we know of fancy and association in other settings. Chains of association starting with the data of a dream may, of course, lead anywhere, and may be made to lead anywhere just as can be generally done with association, given ingenuity and time.

(2) *Attention. Type : intensive or cursory, constant or fluctuating.*

Illustrate. Fluctuations dependent on subject, physical condition, time, environment, personal association, general circumstances? Best results obtained by working on one or several subjects at once or at certain times, or to schedule or impulse or under pressure?

“Attention” rests on the Aryan root *TAN*, to stretch, and this is indeed the clue to the function. Attention is orientative in contrast to the relative disorientation of inattentiveness, absentmindedness, reverie, and dream. It is a special orientation, having a particularly *ad hoc* character. Generally speaking, attention is thought of as a focusing of adaptive potential on a relatively restricted sector of the total field. The delimitation of this in terms of the question, “How many things can be attended to at once?” is an apparently almost impossible task. Reference to real action, however, supplies a framework for an answer. The adaptation potential (sensory, symbolising, motor) can be “beamed” simultaneously on to evidently a large number of sensory, symbolising, or motor activities, qua experiences, situations, etc., provided the elements of the experience have a common denominator.

A good example is furnished by a capable cook preparing a four-course or five-course dinner. The dinner preparations consist of half a hundred culinary procedures, but the good cook can “attend” to the whole lot, because for him or her

they are the numerators of a fraction, the denominator of which is "dinner."

It is the ability to find common denominators to assist easy attention that is part of the work done with varying success as an experiment of nature by every human being as he develops, or organises himself, by living.

Observation of living humans as they work shows that more than one denominational system may be operated at the same time. The example already quoted of driving a car and talking to a passenger at the same time, and the also classical example of the conversing pedestrian on a crowded sidewalk talking and avoiding quite adroitly, are instances of this that could be multiplied infinitely. In examining the talking pedestrian, we observe that if his talking becomes specially urgent then the walking slows or stops, or else he begins to bump into people. We also observe that if he gets in a knot of other individuals requiring a greater measure of steering, then the talking stops or is reduced.

We cannot say that the subject is more aware of the talking than the walking ; but while he can recall the talk, the details of the sidesteps he made, the people he avoided, and so on are not capable of recall except perhaps in hypnosis. At certain times, however, one or the other claims the whole activity or attention of the subject, and this is when the symbolising function rises to a certain height. For instance, when the walker encounters a knot of people, his walking demands the activity of that system of delayed reflexes that is behaviour with mentation, whereas in uncomplicated walking the level of mentation is low. At other times the talking pre-empt^s the motor resources. The plain man is satisfied that the walking is "unconscious" unless it gets into trouble, when "consciousness" has to help it out, and that in the reverse situation the urgency of the talking takes away from the walking even the slight degree of attention it was getting. This is, in fact, not inadequate, and falls well into line in terms of the earlier stated notion of consciousness as a "more or less" affair of degrees of collaboration between sensory, symbolising and motor capacities. The easy modifications of such collaboration by training or in hysteria and the recall of previously inaccessible events in hypnosis, *i.e.*, in a situation of low associational competition, are at the back of

the mystical notion of an "unconscious mind." They are also back of the notions of different co-existent streams of consciousness, and these and kindred notions can be expressed and understood as being the expression of simultaneously existing patterns of sensory, symbolising and motor function, each pattern drawing to a varying extent on these three functions. The more all three are involved, the "more" rather than "less" is the consciousness accompanying the behaviour. Attention and consciousness can hardly be considered separately.

The consideration of attention from this angle suggests an explanation for the apparently inconsistent value of distraction. It is well known that some people work best in the presence of what would be distraction for others. The domestic illustration is the radio. Some students can only work with the radio on; others can only work when it is off. A moment's reflection shows this is not to be explained away as "conditioning"—its history makes that clear. Rather, we are dealing with a *situation*, and the value of totality is being emphasised.

This raises another point, the question of whether attention is not really—apart from laboratory experiments on muscle tensions, inevitably artificial—a matter of total personality and total environmental quality. Is it not more an affair of wholes rather than of focal, partial activity?

To understand this properly, one must have as a clear *point de départ* the recognition that attention, like consciousness, is an affair of "more or less," not "either or," and that the human organism, ever and always, works as a whole.

Attention may be more or less effective, and the measure of its effectiveness is in the effectiveness of adaptation that results whether it be action in the present or action delayed through symbolising.

Although attention derives from stretching it is perhaps best to hesitate before assuming that the stretching means tension. It could also mean reaching out. Experience shows that attention leading to action may even be best when the tension is lowest. The golfer must certainly keep his eye on the ball, but it is the easy relaxed swing of the club that lands the ball on the green.

In the same way the type of attention that results in good remembering is often effortless. The relaxed conversational

tone of the tutorial may be more effective than more formal teaching. Things are often remembered well when no tension to memorise existed, as if tensions formed a barrier to the new facts on their way to join the comity of existing associational and ideational systems.

These examples are probably at one end of the scale. Attention with relaxation is doubtless only possible on a "more or less" basis. We encounter varying grades of tension, and they may well account for variations in the capacity for sustained attention. We would have to consider the ability to maintain tension on the one hand and the amount of tension on the other.

That tension is associated with ordinary medium grades of attention is well known. Tensions can be shown in voluntary muscle and involuntary muscle. The semi-automatic functions such as respiration and mastication are affected, and may be arrested if something attracts the attention of the individual, and autonomically controlled blood-pressure, for example, rises.

These tensions and changes from the essential usual postural substratum for action arise, in this case, out of the attention sequence. It is a preparedness of great variability, and, in general, the scrutiny of human behaviour suggests that the durability of the results of an attention process are greater if the tension has been low. It seems as if a majority of people do not remember well road directions given them by bystanders while driving in an automobile, and everyone recognises the tension in such a situation.

In speaking of tensions, it is necessary to bear in mind the tensions of anxiety, worry, doubt, apprehensiveness, and so on. These tend to creep into important attention situations, and it is notorious that they militate against effective attention. It would seem that they do so by a restrictive process inimical to the all-important process of seeing life whole and, in special situations, establishing a common denominator.

High efficiency of attention may well be an affair of nicely balanced tension and relaxation. The question why we pay attention to this and not to that is hardly to be answered by saying we are interested (*est*, he is, *inter*, amongst or in) because that in turn asks for what is behind.

This is a problem that occupies the mind of the psychologist

more than the actual worker with humans, who has to accept the attention system of the subject for what it is worth. It is helpful to remember that we cannot separate individual and environment and that, in consequence, attention situations in the present may be apparently sponsored chiefly by the individual—who may select the buzz of a fly rather than the rustle of the leaves—or by the environment which may crowd out all with a flash of lightning. This is not enough. The individual cannot be properly assessed as in the "now," and his attention patterns must be looked at as part of a continuum, even the beginning of which we do not know, for who knows what attention tendencies are formed before birth. It is better to observe the behaviour of the subject.

The type of attention shown, intensive or cursory, constant or fluctuating, obviously depends on the meaning of the situation for the subject, *i.e.*, implications for action. It must be obvious that here, as elsewhere in considering attention, the emotional tone linked with the elements of satisfaction or non-satisfaction play an important part. The way in which this actually operates varies so much that it is yet another example of the very wide frame inside which exists what we can call normal.

At best, attention must be fluctuating and varying in intensity, because a moment's reflection shows attention to be a live affair and therefore not static. Even in the quite artificial confinement of attention to as nearly unitary a sensory stimulus as possible there is fluctuation. Much more so must be the attention in real life where we are working with experiences and situations built up out of, it may be, a very large number of elements.

So far as we can get will be to sort out the varying degrees of the "more-or-less attention" and, further, the "more-or-less fluctuating attention."

Just as most individuals arrive at an estimate of sleep and other requirements, so should they have a knowledge of the organisation of attention potential, which is by no means constant.

It is a matter of common knowledge that fatigue reduces the ability to attend to certain things, but a change of attention may temporarily abolish fatigue. Clearly, this is yet another example of the long-established fact that it is our sensory

inflow that becomes most readily fatigued. Yet, this is subject also to proviso. Certain subjects show low capacity for changing their patterns of behaviour. These individuals take some little time to organise, for example, the new "set" of different typewriter keys or automobile controls.

Secondly, the question of shift of attention rests on the extent to which the various activities are comprised in a common denominator. Refreshment of attention naturally comes with changing over to another denomination.

The general setting of the attention process can generally be sorted out and extra efficiency so gained. It is, as a rule, a matter of assisting relaxations, and this is usually quite well illustrated by the tendency for improvement in the evening, in spite of some fatigue, on account of an evening relaxation. That this may be conditioned is certainly a query worth making.

Attention as a result of impulse is to some extent rather outside the scope of subject organisation. To wait on impulse is not to progress in adaptive channels towards satisfaction. The professional writer is sure that talk of inspiration and waiting for it is the mark of the amateur. The attention sponsored by impulse is, of course, high. It is the value for personality gains that is apt to be low.

Working to schedule is constantly vitiated by the failure to appreciate the existence of a warming-up process in all attention and concentration activity that is part of a plan. The discouragement of the potential schedule worker who finds that he can't simply open the throttle and sail off sometimes stops him altogether. The subject who understands the preliminary ticking-over and how to organise it gets away smoothly.

The question of pressure resolves itself into an emotional one. The philosophy of procrastination is complex, and it may be that the putter-off does it at last with ease and wonders why he didn't do it before. The worrier, on the other hand, under pressure may become rattled and his attention wholly dispersed or, on the other hand, he may be stimulated. Here, again, is a suggestion that attention and concentration and their outcome in adaptive work may, after all, depend on degrees of tension. Too little may fail to give a leverage. Too much may be an obstacle.

- (3) *Energy, push, and endurance. Usual curve? Fluctuations dependent on rest periods or vacation, exercise, ease of finances, companionship, fads?*

The study of energy is the study of how much is doing in the way of delayed implicit action, as in mentation or in overt action in the form of objective behaviour. There will certainly be nothing doing if the organism is not getting adequate supplies of combustible material as food and the means of combustion as oxygen. That is the absolute foundation, the ultimate *sine qua non*; and while starvation or suffocation will very soon put an end to any "doings," inadequacy of fuel and oxygen in all the varying degrees possible will have inevitably some reducing effect.

While nourishment and oxygen are necessary for the maintenance of internal milieu, their utilisation is influenced by the autonomic nervous system, which not only maintains homeostasis but is also the sponsor of the diffusely regulative mechanism of the emotions in turn bound up with perception and motivation.

Such is the basis of energy, and the observation of humans in actual operation in natural surroundings shows that individuals may show generally high energy output or generally low energy output, and that both high and low types show considerable individual variation.

Energy is probably best seen as paired with fatigue, and fatigue has so far defied definition. It has long been established, however, that of the three great divisions of the nervous system —sensory, connector, and motor—the sensory and, secondly, the connector material show fatigue to a considerably greater extent than the motor. The notion of a relatively small final common path serving a much larger sensory and connector section makes this obvious.

It would therefore seem that the energy output would depend on, first of all, the fundamental supply of nourishment and oxygen and the utilisation of these for homeostasis by the internal regulative mechanisms. This is confirmed by observations showing increases in activity in female rats at different phases of the oestrous cycle. No such simple observations can be made in the more complex human, however. Secondly, the energy output must depend on the challenge to activity

offered by the environment through sense or memory and fancy. Both the admission of the existence of the challenge and the actual response to it, implicit or overt, must depend on tissue resources. It seems, therefore, as if it were a rounded system dependent on the utilisation of nourishment and oxygen and the general organisation of the whole personality as a psychobiologically integrated unit.

This is borne out by the facts. Certain people evidently abound with energy and throw themselves into every activity that comes their way. Others, with the best will in the world, unemotionally and quietly decline the effort. Both groups show accretions and decretions of energy in response to heightened or lowered claims on interest or expediency, duty or desire, needs, drives, trends, and so on.

The question of disturbance of metabolism by over-exertion arising out of too great willingness, sense of duty, etc., may be a function of anxiety or intellectual or personality inadequacy. The individual who lacks high energy, and has yet a reasonably well organised personality, can generally cut his coat according to his cloth quite successfully.

The attitude to energy varies a good deal in our culture. The more unskilled the worker, the more important is the strength. It is customary for the tradesman to emphasise the high skill of his trade and the unskilled worker the great strength required for his work. The brain-worker is less interested in the question of strength, but for him also the output of energy is important. He knows that his type of work is not only fatiguing, but that when he stops working there is not the pleasurable relaxation obtained on resting from many types of physical work.

It is now known that symbolising activity is accompanied by definite and measurable muscular tensions, and that with these go inevitably internal milieu changes. It seems as if the element of symbolising activity plus the actual foot-pounds of energy had both to be taken into consideration in weighing up the activity level. This is a question of degrees of collaboration of levels of integration, and apparently it is a factor influencing the freshness or staleness of the subject in both directions. The mentation may either produce tiredness or it may stimulate.

The type of symbolising has evidently also to be taken into

account, and this may be an individual affair. Sometimes the symbolising is in the form of thinking out a problem, and this can be put "out of mind," evidently an inaccurate phrase because the sleep may be good and yet the solution of the problem appears rather ready-made next morning. At other times the symbolising may be not conspicuously different, maybe a matter of scope or range, but it leads to poor sleep with tension, restlessness, and continuance of the thinking through the sleep, but with non-appearance of the solution. This may also happen with co-conscious trains of thought.

On the other hand, the intense mental and physical activity of children is something no adult can keep pace with. Yet it gives way to dreamless, deeply restful, and totally restorative sleep.

A general survey of energy output and resources suggests that the tensions of the symbolising, the need for tension if there is low confidence, and the nature of the symbolising have a considerable influence on the amount of available energy. It would follow from this that energy output in the present is involved with past problems and problems to come. The reduction of energy with advancing years may be due to greater elaborateness of integration and greater and more complex tensions—or simply more responsibilities—and homeostatic changes, as much as actual reduction in tissue resources for reactivity.

This is not to say that energy is a "mental" rather than a "physical" matter. The probability is that energy output is a total affair, a function of all the factors involved in the complex interaction between the individual and his environment. As such it must depend on the metabolic background and then on obligations, needs, and outlets. The study of energy output as being the final analysis—for action is the supreme test—is one of the most important single items. It can be well seen that the effect on energy of rest and vacation and exercise (metabolic background), ease of finances and companionship (security in the social milieu), and fads (special needs) gives a set of clues for understanding and management.

(4) *Health. General state; effects of fluctuations.*

Health, for the too close scrutineer, eludes definition. The plain man, when asked how he is, replies, "I can't complain."

This is to some extent the answer. Health is not an absolute thing, it is a state where the individual "can't complain"—has no grounds for complaint. Obviously this is subject to uncountable personal variations dependent on personal standards, and these standards will be the product of environment and thus relative, not absolute. In the kingdom of the blind the one-eyed man is King. In a group of six-footers, five-foot-eight is a little fellow. Amongst lumbermen the office-worker may appear a weakling.

The items of the health inquiry are—First : Is there complaining ? Second : To what extent and how does the complaining reduce the adaptive capacity ?

Sensory disorders act in two ways : reduction of appreciation of environment changes and consequent adaptive handicap, as in deafness and poor vision and general reduction of activity by pain and so on. Inevitably this puts an end to the "I can't complain" in favour of the "I won't complain" or "I don't complain," spoken or unspoken, which now becomes part of an adaptation to the handicap. Or else there may be frank complaining, a definite situation.

It will be seen later how the disturbances of the integrative influence of mentation lead to complaining of a very comprehensive type coming under the heading of the neurotic disorders.

As far as actual movement involving the skeleton and the muscles is concerned, limitation of movement is the final test. If the range of movement is free there is no complaint ; if it is limited, the presence or absence of complaint is the expression of the degree of adaptation to the limitation itself. Then there are two adaptations—one to the environment and one to the limitation of capacity.

The measure of health is the adaptive level ; but the adaptive level of success is estimated by the subject and by his fellow-men, and the final test is the nature of the adaptations. The important query is whether or not the adaptive handicap presses specifically on requirements and needs. Dropped insteps are very poor health indeed for a policeman, but not for a taxi-driver. This principle may be elaborated and, further, it should be clear that requirements and needs may be changed in the face of limitations of adaptive potential. This is the simple philosophy of turning away from what can't

be done towards what can, and reorganising the satisfactions. It is one of the high tests of subject organisation.

Founded as it is on the primal necessity of adaptation, it is not surprising that health should be a preoccupation, especially where the subject feels that his adaptive capacity is already taxed in some other way ; simply stated, the worrier who finds his obligations hard to come up to feels he has little margin and that even a slight reduction in his physical vigour will bankrupt him altogether. This reaction and attitude is highly communicable to others in the family. A degree of watchfulness over the subjective total bodily sensation may thus be set up simply as a kind of habit in individuals not otherwise concerned as to reserves or margins of adaptive resource. Valetudinarianism may thus exist as a reaction pattern established merely by limitation. Certain people are forever reviewing their imagined adaptation potential.

Less common in a way is under-concern for health, apart from the carefree attitude of resilient youth. It does, however, occur. Avoidance of medical examination lest a fear be confirmed is all too common. On the other hand, symptoms may be simply disregarded out of optimism or a tendency to consider the future rather vaguely. Many other factors may enter, such as the fear of being accused of "coddling" oneself. In America many manual workers rather sensibly wear gloves. In Britain such a practice is regarded as womanish. In the same way men exposed to stone dust have been known to refuse to wear masks. Better silicosis than be thought a "sissy" is the opinion.

Between these two extremes somehow or other the ordinary man steers his course guided by common sense, *i.e.*, the combined senses of his community ; for common sense, although an individual attribute, originates in the culture (environment) of the individual and is derived from it.

It is a commonplace worthy of examination that some people are less emotionally disturbed by illness than others, and the generalisation is often made that women in poor health show more patience and resignation than men. This can, as a rule, be shown to be a measure of the vigour and robustness generally present and also of the prevailing mood. There is a tendency for a greater degree of complaining in the very robust for whose glowing vitality a cold in the head is a great

contrast. In others one sees intensification of fear, anger, and sadness tendencies, since all three are signs of adaptive difficulty in any case and naturally made worse by the "hold up" of physical illness.

The effect of fluctuations in health is often seen as affective changes. Conversely, a fortunate combination of circumstances and the affect that goes with it is not infrequently seen to be associated with some physical well-being and even improvement in a specific state of poor health.

Actual ill-health poses two problems to the subject. Can the needs and the requirements and the handicap be squared by fertility of resource and plasticity of organisation? Will the equation, once made, remain stable or not? In other words, will the handicap increase? This is the dread of the partial invalid, and its effect is inevitably fear, appearing as worry or anxiety. There is a tendency for mourning over the loss, whatever it may have been. The extreme reactions are aggressive over-compensations with tension, or else abdication, partial or complete, from living in general in the direction of making the illness the occupation.

And yet again, ill-health has repeatedly been a challenge to man's spirit of conquest, and the history of our culture is full of examples of this. Presumably this is sometimes in the spirit of the sickly frustrated adolescent Sarah Bernhardt, who cried "*Quand même*," or, again, as the elevation of a subsidiary set of tensions and drives into a primary position, or simply as the expression of a fundamental set unaffected by the somatic disturbance—as, for example, Joseph Conrad's neuritis, which did not hinder his writing. The poet Swinburne was not only frail but deaf and afflicted with a general nervousness seriously affecting his co-ordination. This was all accepted by him and played no part in his life's work.

It is often declared that health is the only real wealth. This idea fits in well with the facts. Health is the most solid basis of social and economic security. Secondly, like wealth in the financial or economic sense, it can best be measured not by asking if it is much or little, but if it is sufficient for the needs. This is the most practical way of regarding health, and, looked at thus, the all-over picture of the solvency, in the way of physical health, and the effect of variations assume a readily understandable rôle.

(5) *What evidence of temporary or special inhibitions or difficulties of decision and determination? How accounted for?*

The complexity of human personality requires no argument, and one of the many evidences of it is the existence of "equivalent" behaviour which seems to indicate one thing when actually it is the expression of something other. The classical example, drawn from that inexhaustible mine of natural reactions, the nursery, is the tired child. Everybody knows that a tired child becomes restless, often violently active, diffuse in its performance, and usually emotionally disturbed. The child will indignantly deny being tired, and resists the idea of going to bed even more than when he is less tired. But the wise mother or nurse knows better, and in half an hour the turbulence has been replaced by the deep sleep of childhood.

So is it with hold-ups in the choice and decision mechanism. Associated in psychiatry with morbid depression, these features yet constantly recur as equivalents, not of depression at all but of general lowerings of motivational tensions dependent on the responsiveness of the organism, due possibly to fatigue or other disturbance of internal milieu such as toxæmia. This is only one aspect, however.

Inhibitory manifestations in general, and specifically appearing as indecisiveness and lack of determination, require to be accounted for in order that the morale may not be disturbed and so that as much control as possible may be achieved. It is probably an error to regard them as a danger signal of overwork, provided that ordinary fatigue and toxæmia can be excluded. Rather do they form an indication that the programme of the day's living and working requires reorganisation for economy, and also not infrequently for settlement of the competing claims of rival chains of symbolising. The existence of mentation outside full awareness, the so-called unconscious thinking, if it concerns some important need, often sponsors a phase of reduced crispness of contact with the environment. This reduction of contact and of decisiveness may well be a function of resistance to the activities whatever they are, and, of course, such a resistance may be based on either sensorimotor or connector (mentation) elements in the organisation of the individual. It is well worth while to try and determine how the emphasis is distributed amongst these elements.

Draw up a table of daily activity, overt and implicit, bringing out the salient contrasts of a day in harness or free, with a view of showing its usual arrangement, the personal habits and trends in work, play, and rest. Draw up an efficiency and energy curve for the average twenty-four hours.

The day's programme may have its items emphasised in different ways by the person who is working it out. The distribution of the emphasis is not infrequently dictated by satisfaction or non-satisfaction. Not enough sleep, too much work, too little play and rest time is a not uncommon view of the arrangement. In striking contrast is the emphasis of regret at need for sleep and rest and the shortness of time available for the work.

Such contrasts in attitude depend, of course, on the attitude to what comes under the heading of work. Socially, work would have to be defined as activity for economic reasons and therefore obligatory. The motivation, therefore, of the tensions, postures, and movements of the actual work is removed one stage from the completion of the work or the carrying out of the work, because the activity is not being carried out for the satisfaction inherent in the completion of the job. The work is being done for an ulterior motive and has no claim on the personality of the worker for its own sake. This is the tragic lot of many workers in industry and commerce, whose only satisfaction in the work is what they can buy with a pay packet.

The further removed the work is from the actual end product of attainment, the more elaborate must be the mentation and subject organisation linking the two. For example, the satisfaction of the cabinetmaker in the product of his skill is a direct relationship calling for little mental elaboration. On the other hand, the factory hand who may not see the finished work for long, if at all, requires for satisfaction considerable elaboration of personality, a somewhat unlikely event.

On the other hand, a fortunate section of the community find in work an activity satisfying the economic requirements and other needs as well. For such people work and play are rather interchangeable terms. It is probably wrong to assume that individuals in this group tend to be found in the ranks of professional or research workers. Perhaps this attitude is

more common in such groups—certainly the surgeon could not do his work on any other basis—but it is not confined to them, and work as an obligation willingly assumed may be seen in any walk of life.

On account of its economic necessity, work must take a first place, but it is only in association with work that play can be considered. The distinction between these two is, in fact, quite artificial. If the elements of obligation and economic necessity are removed or modified, as they so often are, in fact, by circumstances, it becomes hard to distinguish between activity that is work and activity that is play. Too often, however, the simple answer is that work is unpleasant and play pleasant.

Within the metabolic limits imposed by tissue quality, defining the basic requirements of rest and sleep, work and play would appear to be interchangeable if they are seen merely as overt activity regardless of the accompanying mentation, symbolising, and degree of organisation involved. It cannot be said that work depends on the degree of thinking or concentration involved, for an evening's bridge demands considerable mental activity.

The long-established principle of rest pauses in industry, the freshening effect of changing the activity, the smallness and unfatigability of the motor resources of the individual, and the fatigability of the much larger sensory resources—all suggest that the real underlying principle is the element of possibility of change. It is the rigid and compulsory nature of much work in our society that creates tensions surplus to those required for the task and consequently wasteful and fatiguing.

It seems as if in considering work and play one has to be guided by the directions of interest and need. As the phrase has it, "interest may be stimulated," but it is doubtful if needs can be modified and developed to more than a limited extent.

Probably the stimulation of interest is a function of organisation of the postural and tensional substratum on which voluntary movement is based. At any rate, it is just as common to learn of individuals who "got interested in" activity definable as work as of others who "got interested in" activity definable as play. In each case there has to be the development of a "set." Appetite comes with eating.

It is in the sphere of inter-personal relationships that it can be seen how work is an activity specifically differing from play in respect of this, that in work the individual's activity has a social significance. As a worker, the individual is in a relationship with others concretely as individuals, or as an abstract idea of society. This element introduces into the activity a certain restrictive rigidifying element involving tendencies towards frustrations of greater or lesser degree, producing redundant tensions, and leading thus to more ready fatigue than in play.

Play by contrast is activity where the inter-personal elements are less in the forefront or are differently arranged. Work "teams" and play teams are not always the same in spirit.

The question of play directly involves the item of leisure and its organisation. Three opposing forces seem at present to be acting on the life of the ordinary individual. First of all, there is the widespread tendency to reduce the working hours of the employed. This goes the length of compulsorily reducing the working hours of the self-employed in some countries. Thus leisure hours are increased.

Secondly, the increasing complexity and mechanisation of the social structure is ominously and steadily reducing the choices of individual action open to the individual, and facing him instead with a relatively few cut-and-dried gambits.

Thirdly, the leisure hours of the individual are now vigorously pre-empted by developments arranged round the distance receptors, eye, and ear. Cinema, television, and radio, and other similar developments, have combined to turn man in his leisure hours into an audience or a spectator, a passive utiliser of his senses, engaging in no movement and very little mentation, for the latter is essentially a precursor of movement.

All this combines at once to increase the free time and to decrease the ability to use it to produce satisfaction. Doubtless, in the situation of high and complex tensions prevailing at work to-day, the out-of-work hours appear to ask not for play but for rest and relaxation. It is thus that the spectating and audient type of free-time utilisation has mistakenly been developed.

Such a state of affairs has its uses, and can be understood. Its danger lies in the possible destruction or submersion of behaviour of a self-developing type independent of the specific

social obligations of the work situation. These are the avocations, the skills outside the work skills, the special personal interests and resources of information, the games and the hobbies. In our society all these are tending to be reduced.

The harmful results only really appear when advancing age restricts the games potential, and when retirement creates a situation where passive relaxation does not meet the requirements. The problem of what to do with leisure and with retirement can be stated in terms of the capacity of the individual for spontaneity, and is one that should, in fact, be dealt with early in life—not when the actual retirement takes place, for then it may well be too late.

It is against the background of such considerations that a day at work and a day of leisure can be contrasted. The rôle of the work in satisfying needs or setting up harmful, or at any rate useless, tensions on the one hand, and on the other the spontaneity level and rapidity of development of the "posture" and motivating tensions of leisure activities, can be estimated. It may also be seen that the "free" day is aimless and only organised at its end, and the end of the summer vacation is often the best part of it, somewhat as the restless sleeper quietens down towards dawn. Long ago our own Stevenson spoke of his ploughman on Sunday : "Half dressed, he daunders oot an' in, perplex'd wi' leisure."

The question of the efficiency and energy curve for the twenty-four hours finds as answer that generally the level is high in the morning, falls off in the central part of the day, and rises in the later afternoon. Special modifications of this are seen in :

- (1) Particularly slow warming up in the morning, sponsoring a query as to the ability to shift from one "posture" to another and the tension and relaxation system generally.
- (2) Special improvement of performance in the evening, an extension of (1).

It should be specially noted that this curve is the expression of subject organisation in the life setting of the subject and that all the available facts be gathered. Evening workers are often people of low energy potential for example, but there may well be other reasons in addition to a low energy due to

tissue quality. The evening rise may be due to quite other influences, such as opportunity, distraction, and maybe even cogitation during the day coming to fruition in the evening.

It cannot be too much insisted on that a strict schedule of twenty-four hours be drawn up, and every attempt made to account for its nature in terms of needs appearing as motivations of energy and visions of satisfaction. We are studying humans in action.

CHAPTER VIII

SOCIAL RELATIONS AND THE RELATIVE RÔLE OF SELF-DEPENDENCE AND SOCIAL DEPENDENCE

First born or where did you come in? How did the successive phases shape themselves in your life? Which were the strongest formative influences (including affections and feelings of mutual understanding) in childhood, adolescence, and later, in your relations to parents, brothers and sisters, relations, friends, and social group? With what effect on your development? How did you take additions and losses? To what extent and how have you become emancipated from parents and home? Do you turn to the home for advice in decisions about plans?

THE experiment of nature which is the gradual organising of an individual *vis-à-vis* environment, using this word in its most all-embracing-sense, is a continuum, and the context is not the adjacent events or hours or days but the whole sequence of the life. Viewed in this way, the common sense of biology finds itself unable to indicate a starting point. Certainly the unit formed by the fusion of male and female germ cells in its site in the wall of the womb is the beginning of a relationship which at birth becomes specifically inter-personal, and it is obvious that in a way this is the prototype of later inter-personal orientation. Unless some circumstance specifically disturbs the sequence, the fundamental patterns tend to be laid down by this early relationship, and their influence may be in line with subsequent organisation or run counter to it with consequent hold-ups in the smoothness of the individuation. "Like father like son" is less true than "like mother like child."

The enormous complexity of the questions of instinct, heredity, and environment cannot here be dealt with, nor are they anywhere finally answered. It is better to keep on sure ground. We know that reflex action exists and that it is capable of combination and elaboration, and that it must be the ancestor of all activity. We know that there is continuity of germ plasm for what this is worth. We know that, whatever

its actual degree of influence may be, environment is essential for life. The organism is not the result of adding nature to nurture, heredity to environment. If this were so, either could be considered alone. Rather is the individual the result of a far more active interaction than a mere summation. It is the mother or mother equivalent that sets the pace environmentally, and the relationship between mother and child, subject to special variations, is the paradigm of social relations generally.

Evidently the socialisation of man, imperfect and war-scarred as it is, depends on language and on the family.

It is, in fact, not easy to assess the special rôle of the family in helping to organise social solidarity, and opinions may be merely impressions. It seems as if too early membership of a large group may actually militate against good inter-personal relationships later. Children too early exposed to community life in institutions apparently tend to lose out on the more elaborate and subtle personality organisations fostered in the family and to have, instead, a somewhat simpler self-centredness and egocentricity generally praised as self-reliance. On the other hand, the dependence of the over-protected child forms a converse.

In general, however, it seems as if the special emotional relationship of protective love and complete trusting dependence were a situation instinct with the notion of continuity and security. The reactivity of the child is exposed to the minimum strain, and presumably the solidity of the situation is contributed to by the presence of the father.

Starting with the unique relationship with the mother, the inter-personal contact next includes the father, with whom also is a special relationship of protection and dependence. Next come in other adult figures, loving and supporting. These influences are for the most part influential in organising the early needs of the child with the minimum creation of useless tensions. Tensions are created, however, by the minor disciplinary problems of the nursery, and it is inescapable that on the management of these depends the whole later elaborate organisation of situations where the personal needs and drives tend to be counter to the local inter-personal requirements. In this is possibly contained the basis of all later manifestations of aggressiveness and of guilt.

Then by degrees there come more contemporary figures—playmates and siblings. The attitudes developed in the small circle of adults (such as nurses), parents, and child form a basis for these more complex relationships, and so, starting from the mother-child pair and going on to the father, there develops an ever-widening range of contact with other humans.

The management of these contacts depends on example and hardly at all on precept. Adults who live in a highly verbalised world sometimes fail to realise that language is not altogether essential for understanding the overt behaviour of others. So it is that children understand very well what adults do without explanation, and remain unimpressed by rationalisations. The low semantic level of child groups partly also explains their sometimes striking contrast with adult groups.

The mother-and-child situation is the first lesson in dependence and responsibility in a situation where the child is totally self-centred. The father teaches the same lesson in another way. The relationship between the father and mother is the first object lesson in mutual dependence and responsibility, and its importance has for some reason been largely ignored. The child's first real picture of the world of working men and women as they have to fit in with one another is got by observing the day-to-day management of this by the parents, not by attending to what they say.

At the same time, against a background of recognised admitted and accepted dependence, the child is encouraged towards responsibility and independence with love and approval for reward.

It is thus that we have the phases :

- (1) Complete egocentricity and dependence of an intimately biological type (Mother).
- (2) Of a less biological type (Father).
- (3) Observation of the working of mutual dependence and responsibility (between Father and Mother).
- (4) Development of some responsibility in an atmosphere of special consideration and tolerance (training by the parents).
- (5) Working of dependence and responsibility with sub-

ordination of personal wishes in the small affairs of play (group activities with contemporaries).

- (6) Gradual development of social sense of dependence and responsibility, freedom, and solidarity on a future considering level.

In this sequence grits may get in the machinery at any stage, and it is hard to assign special importance to any one. Inevitably there will be hold-ups here and there. The frame of the normal is to be thought of as infinitely large.

The early development of independence and the adolescent experimentations are particular problems. Experience shows that the less adolescent the parents are, the less likely is adolescent rebelliousness to occur. The more the outlets, the less the restlessness. The fewer the rules, the less chance of guilty conscience.

The balancing of dependence and responsibility may be influenced by place in the family and by the rôle thereby imposed. Special "sets" and attitudes are inevitably produced. The boy or girl who has the duty of looking after the younger ones is influenced by this in the direction of solicitude or resentment. On the other hand, in a family where there is a nursemaid and an organised nursery life, the contacts between brothers and sisters are different and have different results, usually in the direction of an indifference that may lead later to mutual respect and regard.

It should be borne in mind that these reactions all occur on a basis of immediacy and that the fumblings of adolescence are due in part to a switch-over from this to the more future considering ways of the adult.

For the growing and developing individual there is a tendency to be guided in this process by the results apparently achieved by the appropriate parent, but very often by any older person of the same sex. The suggestion that children have a special affective bond with the parent of the opposite sex is an interesting idea and a tempting one. The inference of it is that just as the boy imitates the man, his father, so also is he the lover of the father's mate, *i.e.*, the mother. On this basis was erected the famous Oedipus complex, once declared the cause of all neuroses but now in the limbo of discarded dogmata.

Children, however, do not, in fact, show any consistent preference for either parent. We begin with special maternal attachment. Subsequent orientation may occur in any direction or directions. Usually each parent stands for what he or she has to offer, and so do the brothers and sisters. "Kissing goes by favour," said Shakespeare, and we are a long way from defining favour. The question of emancipation from the parents becomes more significant if it is remembered that this word is commonly used in regard to slaves. Etymologically it rests on the notion of the transference of property, and the idea that young people should be in such a relation to their parents is a reflection on the organisation of family life and society.

The felt existence of emancipation problems is a pointer asking for scrutiny of the parent-child relationship from the start, of the notions of freedom in the adult, and of the personality organisation of the young adult involved. Emancipation difficulties are an end product and not a sudden new development. It has always to be considered if emancipation worries are due to dependence and doubt about it or to independence and frustration. It is useful to preserve an open mind, to get the facts, and to remember that in comprehending the problems sometimes the adolescent is not able to use language well enough to convey their nature to the adult involved.

It is narrowing to think, as many do, of emancipation as being freed from toeing the line about family regulations. True emancipation consists rather of the development of an attitude of mind that shall be a *point de départ* for wider responsibilities. The preparation for this probably begins rather early in life if it is fostered by wise parents.

Mutual toleration and comprehension of the other's viewpoint rest on sound parental love that has evoked a response. When this is present no emancipation problem can exist, and the later relationships with others will be correspondingly easier and more harmonious. On the question of emancipation depends the tendency to turn home for advice, and the way in which this is organised is a sign of emancipation success or failure. Naturally the development of independence with preservation of trust and confidence places the home on an objective basis and allows the individual to go home as

to any other reliable source for advice just as circumstances dictate. It is fundamentally the difference between subjectivity and objectivity in regard to the home. Either of these may propel or repel the individual to or from the home. Objectivity may calmly recognise the wisdom or the unwisdom of a parent. Subjectivity may rebel at asking advice when objective common sense would suggest it should be done or, on the other hand, impel to ask advice when no advice should have been required.

Naturally this is bound up with the matter of choice and decision generally, and specifically with the effect of parental opinion on plans already made.

In the last analysis, emancipation or not, the individual will tend to turn home for advice if home has been a realistic picture of effective subject organisation. It is hardly necessary to emphasise the fact that the harmoniousness of subject organisation and the adaptations generally of the parents can only be a more-or-less affair, seldom a total failure, and never a hundred per cent. success.

What is your type of friendship? Many or few? Lasting or changing? Passionate or cool? Reserved or confiding? Protecting or depending? Balance of egoism and altruism? What qualities in others affect you most—positively and negatively? What is your ability in sizing up people?

“ Most friendship is feigning, most loving mere folly,” sang Shakespeare’s fool. “ Friend ” has for root the Sanskrit *PRI*, to love, and “ love ” in turn has for root the Sanskrit *LUBH*, to covet. The word is highly charged with the notion of an inter-personal relationship where the individuals in some way want or need one another. We make special exception, however, and it is an exception not inherent in the ancient history of the word, of friendship where the desire is for special relationship leading to reproduction. It is, nevertheless, important to recognise that love and sexuality and friendship have a close association and that there are several combinations possible.

It is therefore evident that on friendship depends the future of society and, indeed, the very existence of its members.

The need for friendship is therefore one of the fundamental

drives of humans and, like all such drives, may manifest itself in an infinite number of ways. Basically, the drive towards friendship is a drive towards union of a kind with other humans for what it can bring. This drive can stem, in the common sense of physiology, only from the early inter-personal relationships—mother-child and family generally. On that foundation will the type of friendship be built. It is a drive for union for what it may bring the subject, truly, but also sometimes with a knowledge that he, too, may benefit indirectly by bringing something to it, and this can only be built on the management and development of a balance between dependence and responsibility. This is the balance between dependence and independence, but also a balance between getting something out of friendship and putting something into friendship. The danger of this scrutiny is a tendency for moralisings to be developed. The issue is a plain one of personality organisation. “*Il y a toujours un qui baise et un autre qui tend la joue,*” says the French proverb ; “To find a friend you must close one eye : to keep him you must close both,” says the Spanish.

The numbers of friends an individual has is a feature of his personality in the eyes of others. It is extremely common to hear people say, “He has many friends,” or the reverse. It is obvious that this seems a quality. Doubtless, it is capable of great falsification and is a constant source of humbug.

At the same time the drive and need for friends is evidently a reality, and its effectiveness is apparently an estimate of the usefulness of the individual to society as being likely to go with the majority. Kipling long ago pointed out the humans were bound by “ties of common funk,” and, doubtless, all of society is based on organising the safety of the life and property of its members. The friendship status of an individual allays the suspicions of the plain man that the relatively unfriended or the member of a small group is a potential menace to the safety and stability of society as being a person of restricted loyalty and responsibility.

The quality of a friendship—as far as it concerns the individuals involved—has to be considered in terms of befriending or being befriended. This is again the question of satisfaction of needs. A clue is afforded by the phrase, “mutual admiration society,” used often of two great friends and, of course, specially

descriptive of the love-sex type of friendship. Such situations where each subject is getting approval for qualities or achievements represents in small compass the satisfaction sequence of attainment with approval of others in terms of the satisfaction formula.

This end, only achieved from time to time and often after great effort, as far as society in general goes, is more readily gained in relationship of mutual admiration with friends. This is, naturally, a decided gain and stimulus. Obviously it must be mutual, and therein lies the root of this aspect of person function.

Friendship is always a type of support. Even where it appears that the subject is in a protective rôle, it can be seen usually without difficulty that the attitude of the protecting one is additive to the value the subject puts on himself. Conversely, the dependent subject feels he is being befriended for his value also. Clearly the chances of defection and shipwreck are greater than when the contribution is more or less equal.

The organisation of personality has certain biological limits imposed on it, and capacity is tissue limited. Beside this some measurement system has to be developed, and it is specifically the simple competitive activities occurring between children that form a basis for subsequent more complex and subtle self-evaluation *vis-à-vis* others generally, but specifically friends, for from them one learns of the existence or non-existence in them of trends and needs present in oneself. Differences and similarities may be managed well or ill. The test is always: What are the actual results in command of action with personal and social harmony? Obviously this occurs best amongst contemporaries.

All of the sequence and fate of friendships depends on the ability of sizing up. In our civilisation, poor verbalisation may even be a handicap for this, as is also the degree of knowledge of cultural background. The ultimate data for sizing up can only be got by observing the actions of the individual. This inevitably takes up a good deal of time, although such observation ultimately gives an ability to formulate and finally to test. Thus here again scientific method is the natural everyday one. The goal is the ability to foretell what the individual will do in a given situation—the "test" element of scientific method. Provided the individual is really going to

do what he says he will do, and provided that we really understand what he says, then we can predict or size up. If we can add to this a knowledge of the culture in which he lives and the way it is likely to modify what is said and what is done, then the sizing up will be better still. Thus it is that the sizings-up of diplomacy are better done by men who know each other's culture and speak a common language, such as French in its rôle of international language, than by the untravelled and uneducated, no matter how intelligent or sincere.

In the same way in plain matters of everyday living the sizing-up process is subject to verbal and cultural handicaps or barriers. One Englishman can size up another anywhere, but best in England. An Englishman sizes up an American badly in England, but better in America. The behaviour of individuals often varies slightly when they are in a setting of a foreign culture, noticeably in the direction of reduction of factors of self-control and respect for the rules of the culture.

These points, and many others, rest on the three elements mentioned before : first, language, its comprehension and its veracity as a forecast of action ; second, the action itself and its interpretation ; third, an understanding of the cultural influences at work. Only if these three are inside the scope of the observer, no formulation, no test, can be made ; the sizing up will not be adequate. It would then be worth while to see wherein the scope was lacking. It may be as simple as that better sizing up comes with experience, or a knowledge of how to go about it, or closer attention and a sound set of standards.

To what extent are you able to harmonise your personal tendencies and desires with those of the family and the social group ? What is your attitude toward authority ? What is your type of allegiance ? What brings out best your position as to freedom and solidarity, i.e., your sense of obligation and responsibility ? How do you feel about the attitude of others ? What specific individuals are you most apt to measure yourself by, to your advantage or disadvantage ? Why ?

The harmonisation of personal tendencies with those of family and friends is a function of socialisation. The tendency

at the present time is to identify drives as originating from positions and attitudes or points of departure, due in their turn to tensions caused by stimuli of all sorts. It is the organisation of these with mentation that is the formation of the individual, and it is most probably in terms, first of physical comfort and then of vision of attainment and approval of others developed *pari passu* with language, that this occurs. It seems likely that certain tensions and attitudes can be fostered and others neglected. In this way the chief early stimulus would seem often to be the approval of others. It is interesting to observe that the approval of others, formulated as popularity, is a determinant of behaviour rather obviously in early school life as a hang-over from still earlier childhood. It is possible that the primary canalising influence for the drives is, in fact, the distribution of parental and, basically, maternal love. Probably the long-established notion of identification with the community has this as its foundation. We speak of mother tongue and mother country. Similarly, the attitude to authority is grounded on the family setting as are notions of loyalty and of freedom and the principles and standards generally.

Here must be invoked the question of consistency. In the main the motivation sequences of the adult are organised into a system of fairly regular excursion of change and rate of change. This, however, does not always occur, and not infrequently adults show irregular and inconstant motivation sequences reflected in inconsistent behaviour. This irregularity and inconsistency is a normal feature of childhood and, of course, its quickening and steadyng is partly growth (nature) and partly environment (nurture) determined. Such inconsistency in adults prevents proper organisation in the child. It is consequently not difficult to trace rebelliousness to growth and development factors or to environmental influence or to both.

Again, it seems as if interference with tensions and attitudes (the *point de départ* of drives) by another person (initially the parent) will only be adapted to if the emotion of love is present. The emotion of love, it should be noted, is first of all an emotion with all the chemical effect of pleasurable emotion and, secondly, a specific emotion involving the concept of approval, value, and hence protection.

Much depends on the concept of authority ; founded

originally, although later much complicated, on the notion of love, protection, and guidance, all is well ; founded on the notion of over-criticism, disappointment, despisal, insecurity, and confused inconsistency, all is not well, and the contact with authority is uneasy, rebellious, or perhaps grovelling.

Furthermore in, for example, the family situation *vis-à-vis* the social situation generally, loyalties, allegiances, harmonisings, and recognition of authority may constantly change and shift.

Individuals may for no obvious reason rebel against one authority and gladly accept another. Here enters the enormous and complex question of the reconciliation of freedom with solidarity. This may be approached from the angle of social and political theory and, indeed, is a convenient point for the entry of discussion of wider human relationships. It is useful also to approach the idea from the angle of authority. If this is done it at once becomes evident that here appears the notion of hierarchy of greater and lesser authority, of delegation, of the rôle of the individual in such a system as it is, as he sees it, and as he wants it to be. Finally, there is the notion that supreme authority is in its turn responsible to the whole organism. This is a system, of course, rather parallel to the hierarchical organisation of personality.

Clearly, allegiance and the clarity of the notions in regard to freedom within a system of solidarity and deference to authority are organised from rather simple origins as growth and as environmental influences, ultimately arriving at a formulation in terms of a self-estimate of the position in a hierarchy. In the same way this might all be summed up as *esprit de corps*, as a willingness to accept what is offered and to work.

Such a conception is at any rate true to life in regard to feelings produced by the attitude of others, i.e., their pre-action position, *vis-à-vis* the subject. Here, again, the test is action. The query may perhaps be better founded on what is, in fact, the attitude of others to you, and why is it so ? Generalisations should, perhaps, be avoided, but classification may be possible.

All the inter-personal relationships are to some extent affairs of comparison. The problem is one of taking care to use a common denominator ; comparisons are often seen that are unsuitable on account of differences in endowment and opportunity. Furthermore, comparisons may be unreal

and made with composite pictures of imaginary individuals, as it were one person with the assets of half a dozen.

At the same time the individuals who are the yard-sticks are inevitably so used on account of capacities, wishes, potentialities, or drives not properly organised by the subject and where the satisfaction in achievement is at least in doubt. That this is so must in turn be due to inhibition or the competition of other drives leading to less clear-cut satisfactions.

How do you take advice or criticism? How does the world treat you? Are you over-modest or over-confident? What are the principal social problems?

The situation in regard to advice and criticism has to be considered subjectively and objectively. Experience shows that requests for advice may be merely attempts to get a decision bolstered up. In the same way the everyday classification of criticism is into constructive and destructive. There is little doubt that much advice and criticism is the expression of aggressiveness and a desire to negative the activity in question. It should be clearly understood that once more advice and criticism seek to undo or alter an adaptation which is either in process or completed. In one way we may think of this as the establishment of a sequence of symbolisations bound up with the action (*i.e.*, the verbalisations and images) or as a postural-tensional "set" similarly bound up. In either case for the most part the performances generally tend to become integrated into the personality. Now the more difficult the adaptations have been, the more important is the accomplishment for self-evaluation and the greater the rigidity and obstinacy in clinging to the pattern.

There are thus two main trends in humans—first, those who set a specially high value on performances which are very much a part of the personality. Artists tend, but not universally, to be in this group; secondly, there is a group where the performances, overt and implicit (abstract ideas, literature), are more objectively viewed, easily worked out, readily abandoned in the face of new facts.

These two groups react quite differently to advice and criticism—the one unfavourably, the other with ease and comfort—and there is every shade and degree of belonging in these groups.

Next has to be considered the spirit of the advice and criticism. As has been stated, they may merely be informed by jealousy, interferingness, stupidity, aggression. On the other hand they may be inspired by a genuine desire to help. This can usually be readily seen on account of the presence, in the advice and criticism, of direct suggestion for alternate action and the picture of the goal. It should be noted that this also disposes well of tensions on account of the outlet in actual movement which is offered.

The query is perhaps usefully reformulated : What kind of advice and criticism have you had ? What kind do you give ? What kind do you ask for ? The estimate of adaptive capacity and of the performance is actually so complex as seldom to be clearly delimited. This is a question of standards, and repeatedly performance is rated differently by observers and subject on account of different distribution in emphasis amongst the elements of the situation.

Repeatedly, attempts to estimate rigidly over-modesty and over-confidence fail on account of the impossibility of generalising—because of modesty here and confidence there. Useful conclusions can only be reached from study of the biography and how the capabilities were fostered or the reverse.

It is usually so that capabilities not well fostered or adaptive assets not developed but inherent lead to a grudge, as if the world should see, without being shown, what the subject could do. The individual who is badly treated may well be resenting lack of reward for something he could do but has, in fact, not done. In this rather restricted inquiry resides the germ of very vast social integrations. Here, again, one sees rather clearly the " more or less " that there has been recognition of one's value now and non-recognition at another time and in other settings. It is the " generally speaking " that is the best indication.

The query as to principal social problems is directed to the management of contacts with others. Here the individual is faced with a series of widening circles characterised by a steady reduction in mutual knowledge and solicitude as the circles widen from the home out. It is in this system that we have to look for the particular milieu where apparent adaptation is least productive of satisfaction and see why it should be so.

CHAPTER IX

SEX DEVELOPMENT AND PATTERNS

Trace the evolution of the sex life as far as possible in terms of dated concrete situations and reactions, using the following topics and questions as a guide.

- (1) *Sex Information.* At what age and on what occasions did you first become aware of sex differences? What was your reaction? At what ages and on what occasion and through what sources have you acquired your sex information? What theories at specific different ages? State its nature in each case and your reaction. To what extent has your environment at different stages afforded opportunities for sex orientation? How much misinterpretation or misinformation has been involved? How much curiosity on your part? How shown? How much consciousness of shame, taboo, and secrecy? How acquired? How lost? To what extent did your sex orientation influence your sex habits, attitudes, and ideals? Did you get any concept of a sex goal or purpose? If so, what was it? At what age? From what age did you connect family and sex, and how?

THE change from the notion of an instinct psychology and motivation by rather rigid, specific, *ad hoc*, unlearned, growth-determined tendencies to the idea of a looser and more flexible arrangement of driving forces has yet to take account of the rather fixed nature of sexual adaptation. Here is a trend in one way quite definitely growth-determined, dependent on the presence of glandular secretions, leading to a physical act only susceptible of very slight modification within its biological function of serving reproduction. Furthermore, this relative rigidity and specificity are rendered additionally hard to integrate into individual and social activities generally because two persons are involved, each with the whole nexus of life in other aspects than the sexual, and, of course, finally by the fact that the new individual resulting from the reproduction has to be in some way placed or accounted for.

Thus it is that the history of the human race is in part a record of methods and experiments directed towards organising sexuality so as to reconcile the various claims of individual, offspring, family, and the community generally. The rather rigid and insistent nature of drives towards reproduction—for sex is perhaps best thought of in this way—inevitably provoked as counter measures a somewhat rigid and insistent set of rules, and a survey shows that in many different cultures the weight of religious beliefs has been thrown into the balance to reinforce the regulations as has been done in regard to other prohibitions—for example, food, under the Judaic Law—as well as those concerning sex. This is naturally one of the sources of guilt in regard to sex.

It seems reasonable to infer that in our culture a somewhat rigid set of rules, founded on an unexplained religious morality operating over a fairly long period, have provoked a degree of revolt. It is hard to say if this revolt was strengthened by the pan-sexualism of Freud's psycho-analytic theory or if the preoccupation of psycho-analytic theories with sex was but an expression of the general revolt. History shows that this sort of change tends to occur in waves. We see to-day, anyhow, after innumerable tergiversations, modifications, and explanations, the gradual decline of preoccupation of psycho-analytic theory with sex along with the slow attenuation of the theory generally in the face of a more biological approach. To paraphrase the words of Cole, it is time for all serious students of human behaviour to realise that we must pursue scientific method rather than belief, however intriguing and authoritatively laid down. The animistic and teleological orientation of psycho-analysis is the expression of an attitude long discarded by modern objective psychological research. The findings of psycho-analysis—"arbitrary, anecdotal, and dogmatic," as Cole calls them—can have no place in science until they can stand the scrutiny of observation, formulation, and test. A literary and mystical psychology cannot take the place of a scientific one. It seems now probable, granted what has been said above, that sexuality is little entitled to more scrutiny than other aspects of adaptive organisation.

Obviously the element of concreteness in sexuality makes for a sequence of fact-collecting, followed by fact-interpreting.

The general investigation of the bodily topography involves

seeing and handling. The amount of the latter appears to depend on factors of grasping tendencies maybe established, it has been suggested, *in utero*. In terms of this, the genital area may or may not have been, as it were, underlined. According as this has happened or not, so may attention be paid to the same area in other individuals according as opportunity presents itself for observation and comparison.

Interpretation of the seen difference in structure may be very slight or may lead to rumination and speculation. The element of "meaning" is, in childhood certainly up to age 7 and probably to puberty, restricted, unless actual information as to the details of sex function has been acquired by specific instruction or inference or through vision.

It is striking to observe, as can be constantly done, the indifference exhibited by small children to dissimilarity in genital structure, a point constantly being brought into focus in regard to micturition, for example. On the other hand, differences in structure may be commented on and the matter left at that, to recur later as part of the "cooking" process to which much information seems exposed. It is a phenomenon easily observed that children pay no more attention to the genitals, their own and others, than to noses and ears. It can also readily be checked that children, on seeing adult genitals, pay attention to this feature, not normally visible. The attention so paid is apparently just the same as attention paid to any other object; it is transitory, and it does not seem to recur. There is no evidence to suggest that the interest is in any way "special," except in so far as the genitals tend to be covered.

It is questionable if the account of early experiences in this field can be relied upon. Formulations of emotional reactions and situations may be so easily couched in misleading terms, when the actual experience perhaps took place at a time when the secondary symbolising resources were widely different and undeveloped. Hence accounts of shock and other clear-cut emotions may wisely be checked whenever possible. There are, for example, a great many references, often non-specific, to emotional shock in children caused by their witnessing sexual intercourse between, for example, the parents. It is alleged that intercourse so witnessed suggests an attack or a fight, and is alarming. More experience with

the normal—not with the clientele of the child-guidance clinic—shows that young children may treat sexual sights with the utter indifference and lack of interest so typical of children towards matters not directly affecting their own comfort or immediate wants. This is not to say that disturbances may not occur, merely it is a statement that they need not do so. The causality value of such matters probably deserves rather objective scrutiny. It is worth while to consider that, in fact, those in intimate contact with the lives of humans not at all in adaptive difficulties know very well that sexual conduct of an acceptedly aberrant nature repeatedly occurs, passes, and leaves no trace in behaviour, overt or implicit.

The frame of the so-called normal is, in fact, extremely large. The notions restricting it have been the over-rigidifying formulations of our culture *qua* sexual morality and the interesting but somewhat impressionistic sexual *mystique* of psycho-analysis. In fact, we deal with the task of reconciling a need as primarily merely seeking relief, with its secondary, final, and ultimately biological end of reproduction with adequate care of the young, a special problem in humans on account of the long helplessness of infancy and childhood.

The orientation into sex matters involves curiosity, satisfaction of the curiosity, the degree of theorising called forth in proportion to the degree of satisfaction, and the spirit in which all this occurs.

It seems likely that the shame, taboo, and secrecy associated with sex matters is partly at any rate due to the clandestine manner in which the information is so often acquired.

The reproductive function is a family affair and, doubtless, sex information given in the family would probably result in the double orientation to sex, which is so valuable where the matter is seen from both the personal and the social angle. Unfortunately this is a counsel of perfection. Few people are in a position to do this well, and unless it is well done it is better left to those accustomed to discussing such matters, who should give information to young people in groups, thus keeping the matter in the open and emphasising the social element in another way.

It is a commonplace now, although for long resolutely suppressed, that children ask questions about sex matters of a restricted and specific nature. They wish to have one item of

information only at a time. Any attempts to force the pace produce confusion and alarm. Delaying tactics produce too much preoccupation. Children are evidently ready to digest different facts about reproduction at an age specific for the individual's development and not on a series of chronological dead lines. Even the irregularity of the menarche bears this out. It seems as if the queries of the child himself provide the best scheme for sex instruction.

Just as with any other gambit of behaviour, the individual is influenced by the opinion of others in regard to sex matters in terms of the satisfaction formula—attainment with the approval of others. Yet in younger years—and the individual is reproductively capable at the menarche in girls and at around the age of 16 in boys—attainment with the approval of others is, in our culture, seldom possible, even although the attainment has the supreme biological value of reproduction. This frustration is a test of ability to switch one set of tensions to another, and the responsibility of society is to provide the opportunity for so doing.

Naturam expellas furca tamen usque recurret, and it is not to be wondered at that there are shifts and evasions and cross-currents. Rather is it to be admired that human adaptation, on the whole, triumphs far more often than it is defeated in the face of such an adaptive problem. The function of sex is reproduction, on which follows the care of the young as a corollary, and it is to ensure the latter that sex has as it were made its own inhibitant out of a social organisation which it has largely created, for society depends on the family and the family depends on reproduction.

General experience suggests that guilt and conscience feelings in regard to sex vary within exceedingly wide limits and, even when rather strong, die a natural death when sanctioned mating occurs. Much evidently depends on the way in which the implication of sex for family formation makes its appearance. It is often seen that lip service is paid to this aspect, while actually the sexuality remains obstinately an affair of entirely personal gratification rather outside of the notion of community and inter-personal relationships.

The suggestion has been made, and has wide currency, that behaviour generally tends to take its pace from the sexual life. Belief supports this view, the facts do not. It seems rather

as if sexuality, an adaptive responsibility, were met by the general adaptive resources and patterns of the individual. In this way the general standpoint must certainly influence the thinking (sex orientation) in regard to the meaning of sexuality. That is to say, it must influence the stage of implicit sexual activity, and here where, once again, action is the test we must be concerned to see how the symbolising and the "doing" actually square with each other.

Since sexuality is properly an inter-personal affair, it is seen practically that the sex orientation participates in the inter-personal relationship system of the individual. Experience shows that sexuality is not responsible for, but merely shares in, the general reactions of the subject to other humans. The real test lies in this, and it is in this that can be seen the development of the notion that sexuality is an activity that has a specially social significance. The degree to which this principle receives devotion is naturally very varied; some do more homage to it than others, depending on the organisation of the personality in directions quite other than its sex function, i.e., in the general business of life.

(2) *Sex Implications.* At what age and on what occasion did you become aware of your own sex life? What was your reaction? What accidental sex sensations do you recall? At what age? At what age did you become aware of the onset of puberty? How did it make itself felt? What difficulties did you have in regard to sex during adolescence? What sex habits did you form or what sex adventures did you have before, at, or after puberty? How initiated? Your reaction? Did any special person, event, or group influence your sex trends? How, and at what period?

The particular quality of tactile sensation in the genitals, which is associated with pleasure and with turgescence of the part, evidently is present from a very early stage of infancy. It is not surprising that manipulation or friction of the genitals should occur accidentally or quasi-accidentally or deliberately as part of a general exploration of the body. It should also be obvious that the configuration of the female genitals does not lend itself of such manipulation or friction to the extent present in the male.

We are dealing with a pleasurable sensation, and therefore with an experience tending to set up performance leading to its repetition. The degree of success or failure or attention or neglect depends, as is constantly seen, on the total setting of the original experience and on the degree of competition afforded by the life situation generally. In a way this principle seems to operate for adult sexuality to some extent also.

Practically it comes to this that, chiefly in the male, friction of the genitals arises and is recapitulated or not according to circumstances, but evidently modified specifically by two factors : one of these is the degree of general reactivity of sensation, and the other is the amount of other satisfaction points in the daily life. General reactivity, a somewhat vague term, nevertheless has to be taken into account. We have no final yard-stick for measuring intensity of sensation in different people, but quite evidently it varies, and the notion may well be a sort of shorthand symbol for wide reactive implications involving all the person has to offer. So with temperature and pain and sex sensation it seems as if there were variations. What is too hot for one is not too hot for another.

As for the satisfactions in the daily life it seems as if sexuality were rather like any other human behaviour tendency chosen at random, in its susceptibility to being crowded out, varying from time to time.

Infantile and childhood genital responses to stimuli, preliminary to adult reproductive activity, begun by chance or in some other way will be more seen in tense and bored children than in others. The tension and the boredom being removed, genital preoccupations are reduced or cease. It is not mysterious or mystical that tense or bored children should direct their attention to an easy pleasure and distraction, valueless though it may be.

Psychobiological integration during the first year or two of life is, naturally, at a rudimentary stage. Specifically the system of delayed reflexes sponsored by language is undeveloped. It is really doubtful if much reliance can be placed on spoken or written memories of events which occurred before language was developed. There is so much falsification of memory in the adult in regard to relatively recent experiences that childhood, and especially early childhood, memories should be accepted cautiously. Their value and their test is how the

alleged remembered incidents or experiences are actually operative in modifying the adaptations in the present, and this applies to sex as to other adaptations. In this lies the chief value of queries as to early sexuality.

The establishment of the genitals as an area capable of producing a special sensation is a feature which is more or less exploited by children in so very varied a number of ways as to make it clear that here again the frame of reference of the so-called normal is very large. For some reason the explorations and experimentations, homosexual, heterosexual, and with animals, have come under a conspiracy of silence or into the special province of the psychopathologist. Nevertheless, in infinite variety they do occur, sponsored as a rule by individuals particularly preoccupied with genital sensation as a result of infancy tension or boredom—perhaps now vanished. Such subjects develop, it may be, a special positioning towards genital play, and they develop this in others as in fostering imitation, "daring," and so on. The effect of this may be transitory or permanent, according to other factors in the whole nexus of the individual's life, and may or may not leave an impress on all later sexuality.

It is thus that the sexuality around the age when group activities begin may be a matter of leader or led one in regard to the pre-pubertal activities. It resolves itself into whether the sexuality—if it may truly be called this—is due to stirrings in the individual due to non-specific stimuli (haphazard friction, boredom, tension) or to specific stimuli caused by some other person.

So it is that there is a tendency for the sex trends, such as they have been before puberty, to influence pubertal sexual behaviour.

The onset of puberty is one of the few unmistakable, clear-cut chapter headings occurring in the organisation of personality. The individual is now physiologically capable of reproduction, and the production of germ cells can be seen as menstruation in the female and nocturnal seminal emission in the male. These events do not pass unnoticed, and may be subjects of considerable discussion in the pubertal male and female. On the other hand, the whole topic may be suppressed.

This is the point at which the individual is brought up rather sharply against a specific problem which is best described

as the drive towards mating or pairing. This involves two features : first, a special emotional relationship with a person of the opposite sex and, secondly, actual sexual intercourse. One or other of these two tends to take the upper hand, and the development of the situation is modified by the hard fact that in our culture males of 16 and females at the menarche can seldom mate in a setting of approval, for economic and social reasons. This results in many cases in the development of strong inhibitory tendencies.

The central problem in regard to sexuality in adolescence is basically the difficulty for the adolescent of controlling a powerful drive along lines of postponement of gratification, the very principle which the individual has to incorporate increasingly in personality organisation as age advances from the immediacy level of early childhood.

It is the setting that is all-important, and the adolescent is exposed to the mores of his contemporaries and of individuals more or less in the age bracket of the parents. It depends on circumstances what the respective influence is of these two. Co-educational systems produce a certain orientation and the segregation system in the Public School produces another. Generalisations are best avoided in favour of an objective scrutiny of how it has worked for ease or lack of ease in the subject's life. There is no guarantee of sexual security and ease inherent in co-education.

What has gone before has to be taken into account. The tug-of-war of adolescence is inevitably influenced by the degree of emphasis already established for genital sensation. It is also influenced by the formulation of the subject, clear cut or not, around the question of love relationships, and the basis of this will be in the example of life of the most intimately known adults, parents, or guardians. Such example seems the best way of lightening the burden of adolescence, which is really a burden of difficulty of establishing perspective and postponement of gratification.

This is rendered additionally difficult if the setting provides sexual stimulation or if it does not provide outlets so as to avoid sexual day-dreams.

Maxima debetur pueris reverentia is a good motto for all who come in contact with adolescents, for they need as never before, and seldom after, help, patience, and understanding.

Too much attention may perhaps be paid to the frustrations of the sexual drive in adolescents and too little to the fears, misgivings, and even revulsion in regard to sex shown by many. The latter group are also in the frame of the norm, and for them the concept of mating and its full meaning is a reassurance for proper orientation.

- (3) *Tension Curve. Describe and compare your sex tension (sex arousals and urges) before and after puberty as regards : (a) nature of local tension, of sex preoccupations, thoughts, fancies, desires, dreams, erections, emissions ; (b) infatuations and attractions—your own and the opposite sex and their effects and after-effects ? Any gain or otherwise in the course of time ? (c) Relative strength and frequency of rises in tension ; (d) situations of arousal and their importance ; (e) methods of relief, attempts at control.*

Can you recall any period of special urge or noticeable lack of urge ? When ? To be accounted for ? Personally or situationally ?

The question of tension, a concept by no means new in personality study, has become bound up with the common-sense notions, now physiologically guaranteed, of attitude, position, and anticipatory muscular adjustment. Just as in all other activities, these phenomena occur in relation to sexual behaviour. Thus it is that alterations in tone of involuntary musculature (leading to erection and emission) and of voluntary musculature (leading to situations of gratification, seeking partner, and so on) go along with symbolising activities of day-dream and sleep-dream.

The sleep-dreams accompanying emission are frequently erotic but not invariably, and, indeed, in the presence of a specially rigid sexual ethic or of guilt or both the dream may be asexual or irreproducible or interrupted by waking so as to arrest the emission if possible. These dreams, or part dreams, with emission seem to have both hormonal and environmental possibilities of origin, as well as the mere effect of distension on the seminal vesicles. In the same way the upsurge of sexual preoccupations in waking hours seems similarly complicated, owing something to both external and internal milieu.

The local tensions leading essentially to engorgement of sex organs have a simple and specific character which is not seen in the generalised tensions which may have a discernible trend or goal, such as looking for a sexual target, or may be a diffuse activity producing mere undifferentiated restlessness.

The aspect of sexuality as a paired performance naturally leads to the search for a partner, and this search is also sponsored by the need for approval by the sexual partner in general terms as well as specifically for sex. This is a complex requirement, and, in fact, the problem of society *vis-à-vis* marriage consists in the successful combination of sexual and general personality harmony.

The growing individual, however, builds in his symbolising an ideal figure of the partner. Naturally this figure depends on the whole previous fabric of the life-story, and the most significant element is the extent to which it is, in fact, "drawn from life" and not a synthesis of composite images. These opposites of realism and idealism are seldom reached to an extreme degree. The ideal figure will inevitably be closer to, or further from, the "creature not too bright or good for human nature's daily food"; and if it is far from what is likely in human probability to be encountered, then temporary identification with real people may result. Infatuation and attraction of a transitory nature can be produced in this way and lead to a diffuseness usually stigmatised as inconstancy.

This process, socially a problem in adulthood, occurs rather typically and harmlessly in the repeated mild and constantly changing love attachments of adolescence, and these would appear to be experiments and best viewed by all as such. They result, given the chance, in the gradual evolution of a set of standards leading to a reconciliation of real and ideal, provided that the ideal has not, *via* rumination, got too much of a lead.

The strength, frequency, and origin of rises in the sex tension may be bound up with the menstrual cycle or with stimulation from extraneous sources. The same regularity cannot be observed in the male as in the female. Rises in tension may be traceable to events of a relevant type—to chemical factors such as alcohol, to mood changes from whatever cause, to general physical state, to the general level of performance as, for example, in the rise of sex tension provoked

by frustration or, as another example, by the release from worry. The possibilities are multiple ; what is required is their scrutiny as part of total person function, and their relatedness to general personality organisation, and the part they play in general adaptive performance, helping or hindering. Generally speaking, it is possible to discern something in the nature of a system, offering at any rate the chance of exposure to, or avoidance of, situations likely to provoke a rise.

No matter how definite or indefinite the causality may appear to be, rises do occur offering very considerable problems for control. It is in connection with these that the much-discussed question of masturbation arises.

This modality of sexual behaviour is actually almost universal in the male at some stage or other of the development, but less so in the female on account of less favourable structural differences, as has been mentioned. The masturbation of infancy and childhood in the presence of a lively and interesting life cannot compete with other interests, and ceases to be observed. In the absence of a lively and interesting life, leading to boredom, or in a life where the adaptations are being made with difficulty leading to uncompleted tensions, this simple physical pleasure is, naturally enough, retained as a consolation. It becomes woven into the whole nexus of the integrations, permeates the biography, and becomes part of the way of life.

Inevitably in such situations the appearance at puberty of the now frankly sexual drive for outlet finds a ready channel in auto-eroticism. If infantile auto-erotism has not persisted, the outlet is less definitely canalised but may well be pursued nevertheless. From puberty onwards masturbation constitutes either a relief from sex tension or a substitute for sexual intercourse. That is to say, it may be on an adolescent or an adult level.

Much has been written in former times in regard to the harmfulness of the practice, and opinions in recent times have tended to swing in the opposite direction. It seems probable that the practice is a symptom and not a cause. Fundamentally it tends to be a symptom indicating a personality organisation when there is a tendency to avoid "doing" in favour of symbolising and imaging activities. It should be remembered

that symbolising which does not ultimately lead to action is sterile. The practice may also be evidence of poor management of frustration.

This tendency to avoid action is not confined to masturbation, and it tends to spread into other departments of life with poor contact with others, a low performance, sense of inadequacy, of "difference," and, of course, guilt. It should be pointed out that this does not occur consistently, and masturbation may quite often be present in aggressive active individuals mixing freely and playing a leading part with the contemporaries. This seems to indicate the need for insisting on the facts of the life-history and the avoidance of generalisation.

Another feature to be considered is the question of imagery or fantasy accompanying the act. Here the vision of the ideal sexual partner appears, and there is a tendency for such an image to transcend the physical appeal of a real person and for sexual behaviour to be imagined of a kind rather incapable of being made actual. This may lead to difficulty of adjustment with a real partner later on. It does not always do so, however. Again, one has to consider the question of tension in general rather than sexual terms. It seems as if at times masturbation were a response to non-specific tension and also sometimes used as a detensing method before attempting the setting up of other anticipatory tensions preparatory to some activity—as, for example, a subject may be impelled to masturbate before being able to settle down to some task.

In adult life masturbation may be regarded simply as a means of relief when, for some reason, for the time being ordinary sex relations are impossible. The nature and extent of use of this method is naturally part of the fabric of the individual life, of the level of control, of the chances of distraction, the intensity of the sexual drive, and of the standards generally.

This topic should be regarded as a whole and as part of the integration of an individual, for it represents a compromise between a reproductive drive and the pattern of our culture. The compromise is less significant when full performance has once been carried out. Earlier, however, it may involve the acceptance of partial achievement in fields other than the

sexual, and this would be a hold-up in full personality organisation.

It may be that here would fall properly the consideration of sexual orientation towards the same sex in various forms of homosexuality. Homosexuality remains a mystery, and questionings are directed to hormonal, vaguely constitutional, and flatly environmental possibilities. It is, first of all, obvious that homosexual interests are not a unitary affair but one of infinite degree of variation qualitatively and quantitatively. Even the question of passivity and activity becomes less clear cut when it is considered that anyhow the end of the behaviour is orgasm, no matter precisely how it is achieved.

There are one or two facts that may simply be borne in mind. First of all, it is a matter of common knowledge that adaptation difficulties tend to push humans in the direction of other usually earlier adaptations or patterns that are easy and can be accomplished readily. The harassed or ill child, for example, constantly goes back to the simpler toys of an earlier age. Everybody sometimes says : "Ou sont les neiges d'antan." It does not really add to understanding to call this regression. This undisputed fact of behaviour should be placed alongside another fact—which is, that individuals with some homosexual orientation, dormant or slight, experience marked intensification of it when they are under strain from any cause. This, it should be noted, does not clearly apply to heterosexuality.

Secondly, it is undisputed that some form of genetically located physical pleasure is almost universal in small children and infants, and begins, therefore, as an intra-personal affair.

Thirdly, the earliest inter-personal relationship, outside the parents, containing the element of affection or admiration, tends to be with individuals of the same sex and therefore less inter-personal, since for a boy another boy is more identifiable with himself than a girl.

It is better to take the facts than to attempt further generalisations on this topic, and it should be added that it is well to refrain from associating homosexual orientation with any type of bodily habitus.

The reduction and control of sex tension rises is an affair firstly of self-control. This difficult concept may perhaps in time be shown to consist of a varying capacity to alter the

anticipatory tensions and positions by means of symbolising function, rather spontaneously originated in terms of future considering function and goal-seeking. Doubtless, it is enormously reinforced by drastic positional changes, such as are involved in physical exercise, and by externally sponsored symbolising appearing simply as distraction which must, however, have some value for the individual or it will be ineffectual.

The presence or absence of special sex urges may be, like other urges, seen in better perspective by an observer. As a rule, however, specific scrutiny will yield data, and these certainly resolve themselves into intra-personally or situationally originating changes or both. Brought down to a foundation it would be seen that the origin would be in inflow, connector development, and motor outflow—possibly singly, but more probably in combination. Thus seen, the way is opened for whatever management is suggested by the philosophy of life and the organisation of the personality generally, as is indicated by the details of the biography.

(4) *Present Sex Status. What is the relative strength and frequency of the present sex preoccupations, responsiveness, and urge? How does it chiefly show itself? What is the trend of attraction, infatuation, and tension—are there any personal sex problems? What attempts at solution? What is the present sex attitude or code or goal and its relation to the actual pattern of attainment?*

After the experimentations of puberty, attended by more or less success, something like an organisation takes place into a more steady sex pace based, however, on what has gone before. Probably this is influenced by the traffic of life in other avenues. The vision of goals and the attainments, less or more clearly, form a set of gambits of less or more satisfaction into which sexuality will irrupt from time to time, partly anyhow, hormonally sponsored. Some scrutiny should be devoted to this. Hormonally originated urges are, as part of internal milieu, involved in the constant circle where sensation, movement, symbolising, and external milieu all insist on being taken account of all the time. The question of preoccupations, responsiveness, and urge cannot really be answered except

tentatively as a system of distribution of emphasis, constantly shifting, amongst the principles (only existing because they co-exist) of sensation, symbolisation, movement, internal milieu, external milieu. For the plain man it works out as : " What are you thinking of in general ? " " What has the environment to say to you ? " " What are you actually doing ? " " What are the feelings, physical and spiritual ? " " And how do you think this influences the sexual pace and wishes ? "

The manifestations of sexual drives in the adult may, of course, be specific or non-specific according as the goal is outlet or control. If the former, the phenomena are of the infatational type and the profound disturbance induced by the preliminaries to the mating process common in one way or another to all the mammalia. If the latter, then there is the appearance of restlessness or specific substitutive activity. To think of substitutional activity seems less moralising than to use the term " sublimation. "

The actual pattern of attainment, like all attainment or adaptation, has to be measured against the pattern of the satisfaction formula (*q.v.*). The possibility of variation is endless ; but there is one fundamental problem, and it is the organisation of the self in relation to the sexual target. The attractions, infatuations, and tensions may, for example, be directed to sexual objects founded on earlier imaging and therefore lacking in reality and not contacted as whole persons but for one purpose only. Thus it might be that there could be a naïve physical attraction for another individual and no other collaboration at all. This produces a split in the general organisation, and for the plain man it comes to be a difference between the love object and the sexual object, and the latter may be bound to guilt. This is no new psychological discovery. Sheridan made use of the idea in his play, " She Stoops to Conquer. "

The principles of wholeness of the personality ask for the fusion of these two, and if it does not occur then, of course, the goal and the actual pattern of attainment do not conform. Of all the sex problems this is one of the commonest, and its appearance is, too often, a legacy from hold-ups in the childhood or adolescent period.

One difficulty following in the train of this is the added preoccupation always present in difficult adaptive problems.

The result may lead to a certain amount of over-emphasis of sexuality, of self-conscious fumbling, and loss of perspective. "Desire," says Shakespeare, "doth outrun performance." It is out of this that there come pre-marital, rather flustered sexual experiments running counter to the ethical standards, and thus liable to failure of impotency or ejaculatio-præcox type. These may lead to embarkation on marriage with grave doubts of sexual competency, and too often these doubts are confirmed and stamped in. This, and the uselessness of a prototype of gratification without effort such as is provided by masturbation, seem to be the disadvantages of sexuality being arrested at this early stage. These effects, however, do not constantly occur, and it seems on the whole as if auto-erotism should be very carefully considered in its setting and in the individual instance before assigning its rôle and importance. Certain common-sense principles must be applied to sexuality. Desire for sexual outlet constantly varies and is dependent on the whole nexus of the individual's life.

Meyer's original formulation of man as a psychobiologically integrated unit was a promise of an understanding that is being constantly implemented by the physiological orientation of modern psychology. One of the many facts established in the biology of psychology is that unexpressed impulses, drives, and needs do not, in fact, pile up like thunder. The notion of damage from "repression" has no psychophysiological backing.

Rigid standards of sexual performance can no more be asked for than for any other behaviour, and it is important to recognise that, while the goal is family formation, in sexuality as elsewhere, the test is personal balance and the approval of others. Anything else is irrelevant.

(5) *Special Questions.* (a) *To what extent and in what sense has the concept or urge of family formation been cultivated in your development and given a chance to play a rôle in your sex life?*

This query goes to the root of sexuality, to the too often forgotten reproductive implication. A survey of subjects so adapted as to fall obviously within the normal makes it clear that this is an ideal to which lip service is at any rate constantly paid. The actual devotion to it is perhaps less solid, and

this would seem also to fall well inside the frame of the normal.

The ambition to have children may in some way, although real, yet be separated from the sexual drive as such. Sexual activity leading up to intercourse shows in its progression a switch over from total personality function involving symbolising—the highest level of integration—to behaviour sponsored by a relatively lowly level, semi-automatic. As against this, concepts of family formation remain somewhat academic on account of the fact that they must perforce remain for long as implicit, *i.e.*, during the early marriage period and the relatively long gestation. Furthermore, the emotions of the parent, father or mother, have a specific quality not previously experienced, and this emotion does not spring into being the moment the offspring is seen. Even in the mother there is often a delay of days before the parental emotion makes its appearance.

This has to be taken on trust and balanced up against loss of freedom, economic factors, cosmetic features in the female (subjectively and objectively). Furthermore, since in all human living, action is the only worth-while test, it is the actual care of the offspring that is the answer.

As against this "local" emotional reaction, it is constantly seen that the family setting of the subject when a child can influence the urge to family formation in order either to re-create a once-known happy setting or to improve on defects in the subject's childhood. There may be the resolve to avoid what were felt to be errors in one's own upbringing. On the other hand, the childhood setting of the individual may have little evident influence.

A good many clues to the subject's attitude to himself are afforded by this scrutiny. The dynastic, family, and tribe ideas are influential for power, prestige, and perhaps security. The desire to live again in one's children and to get for them what one would have wished for oneself may be present, harmlessly or harmfully. Also may be seen the notion of a continuity closely linked with the profound allegiance of man to the notion of immortality and sometimes connected quite naively with his simple affection for himself.

Fundamentally the preoccupation with marriage and family formation is the typical difference between mating as human behaviour and mating as merely a mammalian or, more widely,

a simply biological process. It is the difference between biology and psychobiology in respect of the modification of the sequence, "Sexual stimulation—sexual activity," into the sequence, "Sexual stimulation—delay with symbolising—sexual activity in the special setting of potential family formation." The basis of the complication consists of the insertion of a special space-time element pregnant with the notion of continuity and future considering.

(b) *Are there any factors of the past sex life which stand out as a special force in determining the present status and probable future?*

Hang-overs of all sorts inevitably complicate personality organisation. In sexuality, as in other adaptations, earlier patterns may yet persist, even although they are not adequate for the changes that have occurred in the environment. Thus it may be that inhibitions continue to produce uneasiness when the social situation has changed. Not infrequently individuals retain in marriage the feeling that sexuality is still a forbidden thing. Similarly, earlier gratifications may persist, as has been mentioned, and may be preferred to adult sexuality. It is very much so here that, as Swinburne says, "All our past proclaims our future."

Conversely, the smooth organisation of sexuality enables the step forward to be taken with ease. It seems as if the formula for this is proper sexual instruction—and this would seem to be best done at a pace dictated by the child's development, and in a full programme of worked-for and completed adaptations neither too easy nor too hard in the general business of life.

(c) *Do any features in the present reaction pattern seem difficult to understand? In what way?*

We deal here with the rather common presence of trends and impulses, positive and negative, that are difficult to understand usually because they do not fit in with the system which the individual has developed and wishes to operate. To invoke here the notion of "conflict" is merely to use a word which does not add anything to that command of action which is the final desideratum.

This situation requires observation, formulation and test. First, it is useful to get the data in regard to the reactions, and especially as to the setting in which they occur ; using setting in the sense of the widest possible environmental terms of reference. Secondly, the standards and goals have to be carefully formulated. When this is done, the actual experiment of reconciliation of the two can be attempted.

Not in sex matters alone is it seen that one's inherent impulse is in a direction other than that indicated by standards. This may quite easily be simple and involve no ethical disharmony, or it may be complex and be the source of considerable interference. In these situations it has become common form to lay the blame on the "unconscious" as being the source of rather unruly impulses.

"... Purposive, creative, intelligent acts may occur without our being aware of them. When we refer to these as *the unconscious* we need always to remember the activities ; otherwise our concept will simply provide a fresh instance of animism. As a mind within a mind, the concept of the unconscious solves no psychological problems. Perhaps the greatest advance that has come with its recognition lies in the added importance which it gives to objective studies" (Cole).

It seems more probable, on the basis of our knowledge of postural tone situations, that we are dealing with the persistence of earlier patterns of behaviour that have been interrupted or where a new set of postural anticipatory tensions has not been set up.

The plain man has always spoken of "getting over" and "getting out of" things. We "get over" a disappointment. We "get out of" a habit. This pays tribute to the notion of the rounded-off experience of the Gestaltist and to the relaxation and wiping out, partly at any rate, of tensions and postures relevant to some behaviour when the behaviour has been completed.

It is in this way that friction between what the subject wants to do and knows he should do is best viewed. We must inquire into the fact of the unwanted impulse around the time when it made its first appearance. It is often observed that some pattern of behaviour never gets a chance to flower and to die, to be outgrown, to be "got over," to be "got out of." This and the reasons for it are the answer to the

apparently mysterious contradictions so cheaply accounted for by postulating a dynamic unconscious.

(d) *What is the relation of affection, broader human interest, and sex preoccupation in your friendship and social relations?*

In the physical world that is their environment, humans recognise other humans as playing a special part on account of the pooling of resources, past experiences, and future prospects that is made possible through language.

Everyone is familiar with the tendency to describe individuals as good mixers or bad mixers, and this is an accepted shorthand symbol for what is, in fact, a highly elaborate set of reactions. A moment's scrutiny shows that "good" and "bad" mixing cannot be thought of in an individual as existing on an "either, or" basis but rather on the "more or less" principle. It has also to be considered if the setting of the individual prompts him to mix or not or to what extent. Bearing all this in mind, it is yet evident that humans show a strong tendency for aggregation, and evidently language plays a large part in this. Tribute is constantly being paid to the principle, and the injunction, "Love thy neighbour as thyself," together with the numerous references to the brotherhood of man, show how universal is the trend. The rôle of sexuality in the wider human relationships is bound up with notions of the family setting. For most people human relationships have their prototypes in the original family situation, and inter-personal orientations outside the family can often be made to show their ancestry. Attitudes to others may show filial, parental, or fraternal characteristics that can be traced back to the family situation positively or negatively. For example, a pronouncedly filial attitude in a young man *vis-à-vis* older men may spring from affection for a real father or from lack of a father or from distrust of a real father and the search for a substitute.

In the same way sexual relationships contain a quasi-protecting attitude. The common epigram that a woman gets her first baby the day she marries bears witness to this. There obviously exists the counterpart of this protecting attitude in the form of the attitude of being protected, a quasi-filial situation. A purely comradely attitude can also be seen.

The family stems from sexuality (reproduction), and social relationships stem from the family. While it is observedly quite untrue to say that sexuality sets the pace for an individual's general adaptations yet, obviously, satisfaction in this department has the same general effect as satisfaction in any important field of endeavour.

It is by using friendship and social relations generally as a measure for sex preoccupation that one is able to see the extent to which the individual has been able to work out the meaning of sexuality for family formation and to assign to it a rôle of proportionate importance. The notion of affection as being necessarily sexual need not be entertained, but it is nevertheless a state of relationship linking sexuality on the one hand and broader human relationships on the other, for it appears in both.

In particular, the data afforded by this query frequently offer guidance and comprehension of the relative value of friendships of the same and the opposite sex.

Doubtless the arrival at a self-estimate and a melioristic objectivity in regard to this topic exercises a beneficial influence on the sympathy and patience with others, for sexuality, as has been already stated, is too often an affair of too great rigidity of standards.

(e) *Enumerate what seems to you the outstanding civic and social sex problems and state your attitude to those.*

The fundamental problem of sexuality in society is, of course, rather simply the utilisation of sexuality as a force for strengthening society through marriage and family formation and the prevention of its operation as a disruptive agency.

This basic principle is capable of a good deal of elaboration according to the personal status and bias and problems of the individual. The operation of sexuality as a socially disruptive agency appears as : first, the problem of management of sex by the unmarried and by adolescents and young people for whom marriage has to be postponed ; and secondly, the problem of extra-marital sexual activities occurring for any of the wide range of reasons leading up to this.

In this way the questions of sexual education and responsibility come up together with the problems of the inevitability

or not of prostitution and the ideas in regard to control of sexual impulses and of situations leading to "frustraneous" (Meyer) sexual excitement.

(f) *Of what features in your sex life would you be willing to keep a record to be reviewed and discussed with an expert for research on the actual facts of human sex-life and the range of its behaviour, controls, and effects? From an objective study of your own sex facts will you map out and keep a few weeks' record chart suitable for study?*

It is a matter of historical interest that Professor Meyer developed this Personality Study during the first decade of the present century and that this particular query, investigated since that time in the Phipps Clinic, has been in 1948 the basis of a widespread research in the United States.

Self-knowledge, important though it is, does not, however, hold the field alone. We have to take account of self-control and also most importantly of the ability and willingness to stand up for what is in our nature without excuses and explanations and too obvious rationalisations. Only in this way can the impossible goal of true objectivity be at least approached. Such an approach offers the best chance of modification of the behaviour and of deciding whether, in fact, modification is called for, which is perhaps just as important.

This query makes distinction into what can be reviewed and discussed and what cannot be so treated, and the reasons for the separation would have to be made clear.

One important result of the application of this scrutiny to "normal" individuals has been the accumulation of data to show that what would be regarded as aberrant and ominous in sexual behaviour, in fact, occurs repeatedly either as a transient phenomenon or as a pattern of behaviour in some way not influential in handicapping other adaptations. With greater knowledge comes the security of realising that sexuality is, in fact, highly plastic and modifiable in terms of the dynamics of the life situation generally. It should constantly be borne in mind that sexuality shows and offers the possibility of change.

The regular passage of individuals through homosexual and auto-erotic by-ways and the repeated minor calamities of incest,

impotency, and so on—all of which are constantly over-passed, leaving no trace—indicates the fundamental flexibility of this natural function whose formidableness, rigidity, and mystical influence are all the product of unfounded imagination.

The usefulness of a record chart of sex tension curves lies in its own periodicity, interesting for correlation with energy output and motivation generally, and in the possible clues it affords either for control or for specific use—for example, to serve reproduction in cases where sexuality is on the less vigorous side. It may be seen, for example, that, under this heading, information may appear as to sources of sexual stimulation which can be used positively or negatively.

CHAPTER X

SYNTHESIS AND BALANCE OF THE PERSONALITY

How would you, in the light of the above data, characterise the personality?

While we do not expect to measure everybody on the same set of points, what are the points most likely to serve as a measure of the health, happiness, and efficiency?

THE words "personality" and "person" derive from *persona*, the mask used by classical actors through which they spoke (*per*, through, and *sonare*, to sound).

In this way tribute is paid even now, in the use of this word, to the importance of speech. In assessing the person and his make-up (personality) on the basis of the sounds he makes, it has to be assumed that what the subject says is really an earnest of what he has done or will do. The plain man formulates this by saying, "He means what he says," i.e., "The implications of activity contained in his words will actually come to pass."

Once again action is the test. Put in yet another way, we have to consider verbalisation (language, secondary symbolisation) as a function of connector material finding an outlet in the final common path through, first of all, the speech muscles but later through the general musculature, leading to adaptive performance.

It seems as if personality can only be well characterised by an estimate of the "doings" past, present, and to come.

Psychology and psychiatry have been concerned to find concise terms to describe personality make-up that would suffice in a word to indicate by implication all the features of the reaction possibilities and probabilities of the subject. Inevitably this has not been totally successful in view of the extreme complexity and inconsistency of human reactions. The notions of extrovert-introvert of Jung are well known as are the asthenic, athletic, and pyknic physical types of Kretschmer, each supposed, on a basis of investigation of between two and three hundred cases, to represent a specific

make-up. It is probable that these concepts do not do justice to the range of possible variation.

The plain man has been in little doubt as to the criteria. He knows his fellow-men to be doers, and he watches what they do. He knows that thinking is implicit action or interpretation of action, and he watches how his fellow-man thinks and looks to see if his thoughts (as spoken or written) really correspond with his actions. He is aware of the ebb and flow of emotion in himself and others and he knows its influence. This, too, he watches. He knows that adaptive performance must have at its command ready and adequate physical service, and he just calls this "my health and strength." He knows that he must in some way run parallel to his brothers if his life is to be harmonious.

When the ordinary man is weighing up matters of health and happiness and efficiency, he is impelled by experience to put efficiency first. Modern psychology, meshed in as it is with physiology, has observed the importance of the completed task as a detensifying agent. The completion of the tasks that are in the individual's orbit is to some extent a measure of his efficiency (from *facio*, I do), and on this also hangs the notion of happiness. The suggestion has already been made that pleasurable emotion is linked with successful adaptations, and it is probably fair to say that satisfaction is reasonably near being a prototype of pleasurable emotion (satisfaction : *satis*, enough ; *facio*, I do). Physiological research into release of tensions and our knowledge of body chemistry leave little doubt of the equilibrating effect of the effectively completed task.

It seems, therefore, as if a preliminary inquiry as to health, happiness, and efficiency would depend on the life tasks and their management. This is a basis only, for on it, whenever an actual individual is under scrutiny, there comes to be erected a superstructure of some complexity made up of such things as the endowment, the nature of the task, the setting of the performance, and the general associational features—to name a few of the possibilities.

At the same time, since health is the only real form of wealth, it follows that efficiency demands health as a prerequisite. Yet, time and again great efficiency, achievement, and satisfaction have come to those handicapped by poor

health who have been successful in outmanœuvring the handicap in some way. It seems as if health were really like wealth—that is to say, like a currency, on account of its translatability into any type of adaptation. Restriction of adaptation through physical handicap may be outmanœuvred, but the restriction is still there. It is an enemy that has been dodged, not destroyed. Nevertheless this is a worth-while accomplishment.

One measure for health and happiness and efficiency would certainly be achievement, therefore, as leading to satisfaction (readily equated with peace of mind and containing the notion of "doing"), as being synonymous with efficiency (also containing the notion of "doing"), and as being probably associated with lowered tension and, consequently, greater physical relaxation. Comfort and physical well-being are not necessarily bound up with the idea of an organism at rest, they may equally be present when the subject is in motion.

It therefore seems as if the measure for health, happiness, and efficiency was the general adaptive process mentioned at the outset as being synonymous with life itself. The validity of health (in the sense of in-valid-ill-unadaptable-worthless) is in its power to support a wide range of adaptive function. Fundamentally this resolves itself into the basic notion of motility. The essence of invalidism is loss or restriction of movement. On the other hand, motility is certainly improved by satisfaction, as everyone has experienced who knows the ease of movement, lightness, and freedom following the tension of a task, but only if the task is well completed.

For the rest, it is the nature of the adaptations that has to be reviewed individually and socially. This, with the foregoing, will serve as a measure of the actual status of the individual and an indication of how he stands in regard to his potentialities.

To what extent and in what way have you harmonised, or do you keep apart, your interests in fancy, play, relaxation, art and literature, religion and philosophy, and science and concrete life?

There is evidence from neurological, physiological, and psychological research to show that the action tendencies in

humans are an admirably loose elastic system built on reflex action, fundamentally segmental, thus forming a quite continuous and impressive sequence from the most simple to the most complicated. These facts are amply corroborated by the psychobiologist's study of person function, which shows a varying ability in humans to stream together in a flow of meanings (implied action) all that can be sense-gathered of whatever order.

In studying man we are concerned with a subject engaged in a process of self-organisation by integrating the sensory, connector, motor, and vegetative resources by means of what we may call "minding."

In the field of "minding" this principle of pluralistic looseness of association holds good also. In regard to motility we see that the simple reflex (really an abstraction) is combined and built up with others so as to yield a system of posture and movement of indescribable versatility.

In the same way the details of information, experience, fancy, obligatory activity, and non-obligatory activity of the play and relaxation type, form to a varying degree a system of very high potential allusiveness and rich resource of cross-reference and association. It is obvious that symbolising or even postural reference to any given detail of life experience may, according to the richness of the "minding," be assigned to any one of a large number of new categories. Put in other words, we could say that any event, fact, or experience of the life could serve under the heading of many denominators, according as different aspects and qualities of the experience are emphasised.

Naturally, the ability to manipulate loosely and flexibly the material of "minding" is just on a par with superior motility such as speed, strength, good balance, good sense of pace and distance, and high co-ordination shown in excellence at games and skills. Everyone knows that individuals who show skill at one game are often good at other games. The strong hand is dexterous.

This capacity for loose, rapid, and variable combination, permutation, and recombination is what we may call the synoptic type of minding (Greek *synoptikos*, seeing all together). It suggests that any tendency to "keep things separate," far from indicating orderliness, may be a sign of rigidity and poverty. On the other hand, common sense insists that

there is a time and place for everything. The principle may also be illustrated by considering the ability to switch over from one set of movements to another as has been mentioned before. This may occur too easily or not easily enough. Too great ease indicates an insolidity, too little indicates a rigidity and, on the whole, a low adaptation potential.

Taken generally, the degree of harmonisation mentioned in the caption would be a reasonably valid measure of the level of wholeness of personality organisation, richness of resource, and integration.

How do you bridge over gaps between autistic tendencies of fancy and the adaptation to actuality? What manifestation of superstitions and archaic tendencies do you recognise in yourself? What is the need for consistency in this?

The autistic, day-dream tendencies possibly have their origin in the "let's pretend" of childhood. The difference is that the child is, as a rule, actually in movement. The day-dreaming adult is not. If he is, the product is liable to be regarded askance. Not infrequently real activities may be used as a basis, often a slender one, for day-dream. A current example of this may be found in "The Secret Life of Walter Mitty" by James Thurber. It is often evident, for example, that a boy, free-wheeling on his bicycle, is mentally driving a motor cycle at high speed. So also Thurber's Mitty wove around the driving of the family car his day-dream of piloting a flying boat in a storm.

It is fallacious to suppose that day-dreaming is morbid. Normal in childhood, it continues to be normal in adult life with certain changes. The gap between it and actual adaptation is not a fixed one. Day-dreaming may be very near to specific planning; it may stimulate and sponsor activity not obviously relevant, and it may simply constitute something like a story that is being written instead of being read. The story may actually be one of great looseness and haphazard associations pretty well without any significance. In some circumstances autism may stimulate to activity so as to gain completion; in others it may be so vivid as to reduce the need for activity.

In considering this question, as well as remembering that some autism is normal, attention would have to be directed to the topics of day-dream *vis-à-vis* the actual life situation.

The pertinent question is : Do the day-dream tendencies increase or decrease the real satisfactions or do they make relatively little difference ?

For the most part the last of the three is the most likely, except that by virtue of the " looseness " of association mentioned before, day-dream may lead to useful action in some roundabout way. Otherwise, the connection with sleep-dreams has to be considered. It is common for day-dream to be used as a technique for getting to sleep, quite deliberately. A well-balanced business man had an elaborate day-dream of being the owner of a large steam yacht, in which he sailed off every night as part of the process of getting to sleep. His means would have easily enabled him to have a yacht, but he never got one. Actually he liked sailing. The situation was a perfectly simple one. The separating gap from actuality required no bridge. There was no problem.

Superstition and archaism of that type are generally familial and communicated affairs, utilised sometimes out of deference to opinion in the setting, for conformity and maybe for the ease of others. This corresponds roughly to the falling in with local belief and " doing as the Romans do."

In other forms superstitions, personally held, represent protection, and the need for protection as a function of fear must be regarded as totally inside the frame of the normal.

Types of superstition vary ; the main division is into repetitive and non-repetitive. Salt spilling exemplifies the latter, " Third time lucky " the former. The need for consistency indicates degrees of fluctuation in the security which calls out the superstition. Since the object of most superstitions is to avert ill-luck and the wrath of the gods, they are essentially archaic in their nature, and the estimates of personal security in regard to whatever may be the details produce an ebb and flow in the appearance of the rituals. High consistency would indicate a rather strong desire to leave no stone unturned. A devotion to repetitive superstitions suggests, as is well known, a tendency to tension and is bound up with rhythmicality.

*What persons and leading principles do you identify yourself with?
Along what lines do your ideals go?*

Everyone is familiar with the notion of hero-worshipping as shown by the adolescent, both male and female. This behaviour is, as a rule, demonstrably part of the widening of inter-personal relationships, and its origin is in the "hero-worshipping" in the family. In a happy home the love and admiration of the child for the parent is a clear-cut feature. The later developing admiration of the adolescent for another grown-up, against such a background, does not as a rule cancel out the admiration for the parent. It is a widening of scope, not a replacement, and forms an item of personality organisation, always in the direction of richness and complexity. As everybody knows, it is this admiration for others that gradually arrives at the contemporary of the opposite sex in the special context of mating.

Apart from this special end point, however, the admiration, imitation of, and identification with others all grow out of the family situation, and are dependent on standards of adaptation. That is to say, the admired one is a figure whose adaptive patterns seem to the subject to lead to satisfaction. Simply put, this situation has as one prototype the boy's admiration of the muscles of the Captain of Games or some such person for what the muscles bring in the way of prestige or other prizes. Afterwards, later or earlier and more or less, come the admiration, imitation of, and identification with, adaptive capacities less muscular and more abstract, and possibly in the territory of delayed action such as principles.

Naturally this will have its roots in the standards, the philosophy, and the actual working out of them in practice, of the family. Family standards may be elaborated, amplified, altered, affirmed, or discarded, and this, too, will be profoundly influenced by what the subject has seen actually happening, actually being done, and the results thereof in the family circle.

Inevitably the identification and the principles must be such as offer satisfaction or the chance of a completion and a balancing of attitudes or tensions and trends. These tensions and trends, of course, are plants of very early seeding in personality organisation and, changed out of all recognition,

must be developments of something much earlier begun. It is, however, probably not useful or accurate slavishly to suggest that trends are due to bottle or breast feeding, or early weaning or late weaning, or what not. Subject organisation offers obviously far too great a complexity for such simplifications. The loyalties and identifications are not hard to define as a rule, but their meaning is harder to arrive at and their fundamental sincerity harder still, for here we may encounter rationalisation and only partly subject comprehended behaviour —the so-called “unconscious” sponsorings of acts.

We search for identification with society as a whole *via* identification with a leader and his principles. A good deal of care has to be taken in the scrutiny of this change-over from the identifying disciple to the rival and finally to the independent leader. These easy subtle changes naturally cast doubt on the essential validity of the avowed principle. The plain man says, “Oh, he’s only in that for what he can get.” The psychobiologist must rather look for a definition of the satisfactions of the individual other than what would at first appear.

To what extent do you cultivate resting points of satisfaction? (See Satisfaction Formula and Range and Fluctuation of Fitness.)

The notion of a punctuation in the life programme described by Meyer as resting points of satisfaction is an idea towards which there have been other reachings-out. Longfellow’s “Something attempted, something done, has earned a night’s response” is one such. Gestalt psychology in its devotion to the concept of “wholes” is another, and here the emphasis is laid on the question of actually doing something and bringing the levers of the body into play. Psycho-analytic theory also in its own way spoke at one time of “the lived-out experience,” and suggested that unlived-out experiences continued to ask for completion.

Meyer, on the other hand, took up his stand on the notion of satisfaction as something that could be understood, that could be fairly well defined for the individual in question, and that could be specifically aimed at.

Observers of person function do not fail to see the division into two groups : those who are willing to pay for satisfaction

and those who are not. These two groups are, respectively, active and passive. Our culture is tending to offer more scope to the latter and less opportunity to the former. The steady reduction of individual effort and outlets for individual effort and the increase of passive leisure, to which television is the latest addition, are both obvious enough.

It remains true, however, that just as the joy of rest can only be produced by work, so also the achievement of resting points of real satisfaction can only come from activity overt or implicit and not the observation of activity carried out by others.

Another aspect of this lies in the notions of anticipatory tensions in muscle groups, which are set up as an activity is sketched out by sensory and connector elements of the nervous system. The completion of the activity and the disappearance of the tensions cannot be simply regarded as following in a sequence. Rather they must be thought of as being integrated parts of the same phenomenon.

It is probable, however, that the diminution or more or less disappearance of tensions associated with the end of phases of performance or completion of tasks represents also a transitory cessation of or reduction of the work of the mechanism of homeostasis. It seems fair to suggest that if the general adaptive processes are organised in this way the tendency will be for economy of effort, greater availability of energy, and a confidence in adaptive potentiality. This is but one more aspect of the general notion of subject organisation into a psychobiologically integrated unit.

From these, and many other angles that can readily be thought of, it seems as if achievement had a special value, best thought of as physical and psychical, i.e., psychobiological. The word achievement means bringing to a head—*venir à chef* or *a caput venire*—which does not take one very far until it is learned that head is from the Sanskrit root *KAP*, to contain. Resting points of satisfaction or achievements are therefore doings that have been brought to a head and are contained. They are additions to the assets of the personality or, indeed, they are the personality in one sense.

Evidently this is of the highest value and evidently also it can be pursued. The notion of cultivation of resting points of satisfaction is a special reformulation of "the pursuit of happiness," mentioned in the Constitution of the United States.

What fundamental sciences and pursuits of knowledge do you recognise, and how are they interrelated with your view of the world and human personality? Where does psychology come in? Wherein do you recognise the meaning of sets of integration?

There is a tendency to separatism in regard to sciences and fact-finding activities generally, and it is of value to bring together as far as possible under one roof all that man does because this is the common denominator. Sciences and pursuits of knowledge, the world, and human personality are all brought together over the denominator "Man." Without this denominator the whole affair becomes unmanageable. A recognition of this amenability to being brought together is useful for establishing the individual's place in the cosmos for the sake of his own objectivity in regard to it.

So it is with notions of psychology. There has been a good deal of confusion not only for the layman but also for the psychologist. Meyer's original formulation of psychobiological integration has been amplified and reinforced from every angle by the psychologist of to-day, who is, in fact, a type of physiologist. The physiological psychology of to-day, however, still owes allegiance, and rightly so, to the fundamental "moral" of philosophy and the antecedent ethic of religion.

For the informed, a time has arrived when psychology is occupying a fairly well-defined position as one of the biological sciences, free from mysticism. For the uninformed, who make up a good proportion of the whole, psychology is still not far from the Horoscope and the Mind Reader. All work with human personality requires that the notion of psychology and its scope be a matter of simplicity and clarity as regards the principles, even though there is still much undiscovered country.

The grasping of the idea of sets of integration within the personality develops well as a result of appreciating the same principle in the larger field of human activity as a society. At the same time it is of vital importance for anyone who has to help adaptations in others to recognise the operation of a hierarchy of function typically operating as delayed reflexes (behaviour with mentation) when the behaviour is at its most socialised and complex, and as progressively less and less delayed the less social significance is present.

What are the lines and topics of interest you may have in the factors at work in the development of mankind, the ethnological variations, the history of civilisation, of literature, languages, and thought? The interests in sociology, in a practical and theoretical religion and philosophy of actual life, individual, social, communal, and political?

It will be noted that this inquiry into the actual ideational resources of the individual can be divided into two parts. The first is rather purely factual and concerned with the stock of historical data accumulated at the behest of interest. In this alone there may be further data as to the interests. The second offers opportunity for the exhibition of belief, and may well be coupled with the interests uncovered by the first part of the inquiry.

Under this heading can be gathered what will go to the formation for the observer of the subject's *weltbild*. A good deal of care has to be taken in regard to this scrutiny to preserve a strictly objective attitude and a written record. The basic value is that there should result from this item something of a fresh orientation, for the subject, towards man and by extension to himself with the obvious gains in proportion and perspective. Furthermore, the two parts of the scrutiny exercise a mutual check and balance, especially in regard to the light thrown on belief and prejudice; the notions, whatever they may be, of the fundamental moral principles and the personal system of ethics. Rationalisations typically appear here and sidelines of scrutiny of the subject's concept of the value he wishes to be placed on himself by society.

What is your concrete interest in eugenic and euthenic considerations and methods and efforts?

It arises naturally out of the preceding query that there are opportunities for improvement in social organisation, and the subject can here formulate his view of this. It may as a rule be seen what dictates the suggestions, and here again it may be a question of valuation. At the present time motivation is a concept that is best approached with caution and with common sense. The motivation of interest in eugenic activity, subject to the foregoing caveat, may be seen as an affair of less or more personal gain and less or more belief in or knowledge of the historical background. There may well be clues to special lines of dissatisfaction thus uncovered.

CHAPTER XI

DIFFICULTIES AND HANDICAPS

What have been, and are, your greatest difficulties and handicaps? Your liabilities of health, physique, attractiveness, posture, gait, and manner? Are you apt to appear comfortable to others or the reverse? The difficulties in the mental and manual equipment? Emotional and temperamental evidence of special complexes or tendencies? Group the items according to your own sense of their importance. Any specific acts, habits, or thoughts which are a source of worry, doubt, or remorse in a setting of greater or lesser consciousness? Any special dream tendencies? Or any other features such as tics, mannerisms, peccadilloes, etc., worth specifying? State with each the origin and development and how you meet it concretely.

THIS is a group of topics of constantly recurring type, but characterised in everyday affairs by considerable vagueness which leads often to mere empty harping without much else. It should be noted that emphasis is properly laid on what the subject presents to the vision of his fellow-men. This has just the significance that first of all humans consider the stimulus they offer to the distance receptors of others, but in respect of widely differing features and characteristics. Thus is sponsored care of the general physical *tenue*, the development of a cultivated manner of speech, and, more primitively, the use of scent. Health is linked with this on account of the deleterious influence of invalidism on physical appearance as a rule. Naturally the whole matter refers ultimately to the degree of acceptance by others found by the individual, and this is, of course, of considerable importance to most. It is interesting to observe the different reactions to this problem in the sexes. The process of "making the best of oneself" occurs both in males and females. Condoned in females and even highly approved of, it is condemned in males if it is detectable. Yet scrutiny of this item of behaviour adds to the data of observation,

particularly for the inter-personal relations. It is out of this that the "ease with others" arises. It is not by accident that constant references can be found to the "confidence" which women derive from being well dressed. The same applies to men, but it is under a conspiracy of silence.

On the other hand, the assets may be in other directions so considerable as to outweigh altogether considerations of manner and physique. This can be constantly observed in those of assured position or special mental endowment. From this standpoint one may go on to estimates of self-evaluation and the ideas of popularity and its meaning.

The association between hand and eye is known to everyone. More general association between mental assets broadly viewed as a whole and the manual capacities of manipulation exist also. Attention has to be paid to the possibilities of hemispheric dominance, eyedness (which is the master eye), and handedness. The only evidence of this may appear in student troubles of study and note-taking.

The consideration of manual skills brings with it the study of training of dexterity. Many individuals declare themselves and are declared by others to be "handless" and clumsy, simply because they have never practised or perhaps been allowed opportunity. The inter-relationship between mental and manual skills is particularly important because of primary symbolisation in terms of images of movement. High capacity in this direction leads obviously to the frequent attainment of end points or resting points of satisfaction, simply because such individuals tend to be "doers." This, of course, raises the level of adaptive capacity and of the subject's concept of his general adaptive capacity. The history of the highly adaptive individual is full of periods when special skills had their day and were then discarded, but they can always be revived, and this is adaptive potential of high value for personality richness. Probably education will develop along lines of utilising this principle.

Again, mental and manual assets have to be considered for their value in regard to the management of tridimensional problems and the ability to construct in the mind's eye the unseen face (the other side or sides) of solid objects. Low capacity in this direction is a handicap for orientation, finding

one's way about, and specifically for mechanical work of all types.

Under the heading of emotional tendencies, the question of "rises" and their accountability was discussed. Now, towards the end of the study, this matter is once more approached, as it were, from the other side. Here we have to observe the appearance of feeling and try to arrive at what is really going on to account for it. It is in this setting that the notion of implicit activity in man resembling a palimpsest is valuable, because something of the kind evidently occurs and sequences of implicit and overt activity may be superimposed on one another with difficulty in accounting for the emotion.

Conversely, there may be observed this phenomenon in yet another way, where there are acts, maybe rather low in the hierarchy of person function, such as habits, mannerisms, and even tics, giving rise to unpleasurable emotion or associated with unpleasurable emotion. Everyone from time to time in more or less consciousness and with more or less voluntariness executes overt or implicit behaviour leading to emotional distress, and this was specifically noted, for example, by the Apostle Paul. It is obvious that this is common, and it forms a clear-cut example of how early trends, interrupted in some way and never brought to a conclusion, may make an unsuitable reappearance although they may have been quite consonant with all the standards at the stage of their original appearance. This is a principle of some importance. It is essential to deal with this feature on the basis of the historical approach, since there is a strong tendency to be enmeshed in the immediate setting of the phenomenon. Only a careful survey of origins and actual management is of value, and it need not be assumed that the correct answer lies in the mere abolition of the act, or of the emotion. The problem may really be one of the setting of the behaviour and of its suitability.

Naturally the same technique applies to the special implicit activity of the dream which, if recurrent and disturbing, clearly indicates something that has not been reached. It is for the subject to integrate features of this kind into the actual working of the personality and, as has already been said, this can only be done by the method of the longitudinal section.

Specify one or two concrete difficulties you would like to adjust during the next two years. How?

This item is a possibly more useful way of presenting the familiar material of the New Year's Resolution with a chance of success.

The concrete difficulties coming up under this heading may well be different from those presented in the preceding section. It is a question of what is seen as a fixed handicap and as hard luck in contrast to what is modifiable. The concept of modifiability thus obliquely got at may perhaps be uncovered without humbug, rationalisation, or insincerity.

Next comes the validity of the ideas as to what should be modified. The individual commonly wishes to remedy something which would not be agreed to by those who know him well. A random example of the curious forms taken by this is found in the emotionally labile individual who wishes to adjust his bad temper, although his friends deny he has a bad temper. It is here that the externalisation has undergone a change. The emotional turbulence does not show but it is there, and the subject calls it, for short, bad temper, and wishes it were not there. Fundamentally the supreme test of what requires adjusting is whether the behaviour is adaptively effective or not.

The "how" of adjustment demands a formulation of ideas in regard to self-control. The mysterious element of will and so on has no meaning for those who have to control others, either humans or animals. For them the question is one of distraction and effective activity in some other direction. It is probably in somewhat the same way that many would go to work with themselves. For others the process would be in terms of a vision of gain in the future. Others, again, see the affair as one of enhancement of personal value for the self and for society. The variety of approaches is, of course, inexhaustible.

In this query we have the opportunity of observing in circumscribed experimental form the process of subject organisation. Here, again, starting with observation we can go on to formulation and test and apply scientific method. Thus we would have careful observation of the difficulty to be adjusted, formulation of the conditions of its appearance, and

test of reappearance of the difficulty when the conditions are set up and non-reappearance when the conditions are not set up.

Inasmuch as you will want to help others, determine on what points and how and to what extent others have been able to help you attain what you had not attained by yourself. What means have you tried yourself on yourself and on others?

A study of the autobiographies of celebrities seldom fails to discover mention of influences which the writer regards as having been operative in moulding his character and guiding his career. Those, as a rule, come under the heading of interests and general ideas sponsored by this or that contact and of clear-cut imitation, with modifications, of some leader. Very often it is spoken of simply as having "modelled" oneself on some great figure. This is not without importance; the influence of the family setting is naturally great, and it should be recognised that it may be positive or negative.

It is, however, more specifically the question of attainment and direct adaptation that has here to be considered. As a rule the question can be brought down to earth and to some concreteness by recalling the influences (*vide supra*) and how they worked and what they led to in the way of actual performance. Here, again, in Meyer's words: "We must study what is doing." We are dealing here with precept, example, ways of training, special lines of parental instruction, the effect of praise, the vision of opportunities seen first through another's eyes. It is not so much a question of *vis a tergo* as perhaps trigger energy.

At any rate, everyone can look back on specific situations where one got a "leg up," and, in general, these may be brought together in a formulation. If this has been done, then the individual may develop a new technique of adaptation which he has, in fact, learned from someone else.

It is only the practice of this in actual doing that can give results to the subject which will yield a confidence for passing it on to others. "Don't do as I do but do as I tell you" is an all-too-common situation. Nobody can assist the difficulties of others until he can be clear about his own adaptive performance and its modifiability, and what the factors have been

in leading to successes which did not appear assured at first sight.

Inevitably, all help and all training rests on example. The opportunity for offering example is not as a rule fully given to those who have to try to help others. Probably, however, the general formulation of the observation of real examples offered to the one who needs help may evoke a more whole-hearted test than he has been previously making. He may begin really to try. This may be simply a function of encouragement, hope, desire for valuation, vision of attainment. Encouragement is derivatively "heartening," and pays tribute to the rôle of circulation in providing a suitable internal milieu to support the adaptation whatever it may be. "I hadn't the heart for it" needs no explanation or elaboration. It is how to give fresh heart and how to develop it oneself that repays observation, and can only come from patient observation. It is derisory to suppose that there could be some simple rules or recipes for this.

Enumerate the most important difficulties of human adaptation that you would want to see discussed as human hygiene.

These arrange themselves insensibly for the subject into a general and a special group.

The general group is an extension of the interest in eugenics and sociology. The special group generally turns out to be the consideration of personal adaptive problems which thus are provided with yet another chance of appearing and from a different angle; perhaps rather more objectively and with something of a tacit assumption that the personal problems may, after all, be shared by one's fellow-men.

There is generally seen to be some linkage between the general and special groups, since the individual tends to form a microcosm. As a result of this the topics here may, as a rule, take the form of modalities of inter-personal relationships. This on the grand scale assumes the form of preoccupation with international affairs, war, and politics. Narrowing down, child-management problems come up via social, familial, and, of course, sexual adaptations.

CHAPTER XII

REACTION TO DISAPPOINTMENTS, ETC.

State some specific disappointments and your concrete reactions to them. What are your main resources of comfort and encouragement in states of regret, diffidence, self-depreciation, discouragement, or discontent? How do they act? Do you repress or do you have to over-compensate, or do you balance smoothly? Give an instance each of repression and over-compensation. Are you aware of substitutive tendencies?

How do you react to being sick and to inquiries about your health, or to deficiencies and handicaps?

What are, to your mind, the most unthinkable and intolerable possible incriminations against anyone?

[Enter STEPHANO, singing, a bottle in his hand.]

STEPHANO : "I shall no more to sea, to sea,

Here shall I die ashore ;—"

This is a very scurvy tune to sing at a man's funeral :

Well, here's my comfort. (*Drinks.*)

—SHAKESPEARE : *Tempest*, II. ii.

THIS type of comfort, "drowning the sorrows," is well enough known and needs little elaboration. Generally, as a social aid, the use of alcohol has but slight significance for personality structure and evaluation. Specifically as a comfort it demands attention, and so in the same way does tobacco. Both of these drugs, it is obvious, influence the internal milieu, and are thus seen to be connected with the diffusely regulative emotional system and its linkage with vegetative function.

In states of discomfort we have to allow for a reorganisation probably of anticipatory tensions, and there may well be room, as far as certain people are concerned, for a rapid detensionification *via* a pipe and a glass of beer or something of the kind, so as to give time for the coming along of a weighing up of the situation and going off on a new tack *via* the symbolising processes. Others may not need the pipe and the beer or either, and some, again, may be unaware of anything except "having a cigarette and feeling better." All these reactions and the

obviously related modifications have to be taken into account.

Leaving these simpler levels, the questions of faith, of the meanings in living, and the perspective and values come up for review. It will be noted that regret, diffidence, self-depreciation, discouragement, and discontent are evidences of unsatisfactory person function, and typically are poor adaptations where the value of the subject in his own eyes tends to be reduced and where his value in the eyes of others is in doubt objectively and subjectively.

At the early stages of life the source of comfort and encouragement is parental, and probably particularly maternal, prizes and valuing. This element is present also in the Christian ethic, and needs no elaboration. Springing from the family situation the later resources of comfort tend to be in group approval and sponsor the formation of societies, guilds, trade unions, and so forth. The early parental support may well be switched over to husband or wife.

Another type of response occurs in terms other than interpersonal and assumes the form of a function of the rather vague standards mentioned above, and leads to the restoration of balance as a result of rather objective review.

Yet, again, the observer sees the appearance of action as the solution by certain subjects of the discomforts under review. This direct form of response, of course, may be interpreted as an attempt to establish something actually done as a counter to the specific adaptive failure signalled by the discomfort.

This is a question of frustration, and the response thereto is a useful indication of the level of rapidity and effectiveness of change of direction possible for the subject. Apart from the more dramatic situations of specific disappointments, data can be got about this by scrutinising such simple and common situations as the "let down" when a lively luncheon ends in the middle of the afternoon to see how quickly the subject gets under way again.

In this also may be estimated the rôle of "minding" in the subject. The process of subject organisation into the system of delayed reflexes where the delay is a function of connector material (between motor and sensory) occurs in terms of primary and secondary symbolisation, as has been already frequently stated. It has also been frequently stated that

secondary symbolisation brings past, present, and future together in the "now" for the subject. The use of this function is obviously likely to produce that smooth balancing so typical of the organisation of tensions. It is interesting to reflect that the word poise should have become the *mot juste* for this. Poise comes from *pensare* (Latin), whence also comes pensive. The ideas of balance and of thought are not remote from one another but rather interestingly connected. The plain man speaks of "attitude of mind."

When the "righting" or balancing process does not occur we have to consider what are commonly known as repressions of the recollection of the discomfort or over-compensation. These processes have been well known to the plain man from time immemorial. He has always known that memories of painful experiences are deliberately and specifically crowded out as far as possible by thinking about other matters, doing things, and even by such tricks as singing or whistling and sometimes by semi-ritual gestures and other acts. It is not necessary to postulate an animistic unconscious to understand this.

On the other hand, there may be a sort of attack on the problem with overdoing the response. The shy person forces a harsh and unconvincing boisterousness, and so on. This sort of thing has been very neatly described as "leaning over backwards" with virtue, which may well stand as a paradigm of over-compensation.

Both of these reactions are interesting in that they are incomplete collaborational situations. The full power and effect of symbolising function for perspective in space-time is not here effective, and, consequently, it is useful to regard repression and over-compensation as examples of part function, not as the expression of total person function.

Yet another channel is in the process of substitution where some completely different line of behaviour is, perhaps irrelevantly, set up. These substitutive tendencies are rather typical of childhood behaviour and, as a rule, consist either of turning to something easier or to something of which the individual knows himself to be a master. These reactions, evasive of the discomfort situation, are yet significant as being out of the main stream of purposeful living, and this is why they can occur so harmlessly in the relatively planless

day of the young child while being relatively useless for progress in the adult.

Reactions to questions of health seldom fail to be brisk. One or two points have to be considered. First of all, it is not for nothing that the conventional greeting is "How do you do?" or "How are you?" The preoccupation with health is basic and rightly so, for, as has been said, it is the only real wealth. Secondly, it is necessary to be healthy in order to keep up with the community. Therefore, queries about health on the assumption that it is not good, and actually being ill, are events easily seen as symbols not only of poverty but also of being outcast. The apparently exaggerated annoyance so commonly seen in response to health inquiries and the disturbance occasioned when individuals may be told they look unwell, bear this out. The converse is seen on being told one looks well.

As an extension of this, the student of person function will appreciate and can observe that all physical illness is more or less accompanied by this type of reaction, and this should constantly be taken account of in relation to the sick.

To some extent the same applies to deficiencies and handicaps, for these have their special significance as reducers of adaptive potential. The reaction will be greater or less according as the adaptive resources are adequate to cancel out the handicap (illness or other handicap) or not. Compromise, circumvention, evasion, acceptance, and so on may all appear, and it is a question of how the personality organisation can harmonise these, for obviously there is no "either-or" but always "more or less." That is to say, perfect health on the one hand and absence of all handicap on the other are abstractions.

Health and handicap are important for their influence on inclusion into society. It is also important that the individual be free from recriminations and incriminations. The concept of the intolerable incrimination will uncover positively or negatively some aspects of the standards. One may also get a hint of trends in the individual in the direction of, or away from, the offence in question. This inquiry is, in fact, valuable more as a *point de départ* than as likely to produce a specific answer. It is probably not quite true to suggest with the poet that we deplore only the faults that "we've no mind to":

it is possibly not so simple as that. The converse offers some interest. It is widely accepted, for example, that anyone who says he has a quality almost certainly does not have it at all.

The notion of the intolerable incrimination carries also the special value of establishing more or less the individual's idea of what would constitute a serious assault on the fabric of society, and thus a notion of the individual's view of the build up of society.

CHAPTER XIII

ORIGINS OF ASSETS, LIABILITIES, AND DETERMINING TENDENCIES

How many of the assets and tendencies favourable or detractive can you trace specifically to : (a) heredity—to any distinctive individual or line of the family? Are there specifically recognisable contrasts and lines in the family; (b) any special development or lack of development of special senses, special motor or other aptitude; (c) the external influence of the social and economic and political educational status, special events, special persons, courses of training or reading or special emergencies; (d) non-mental factors of your make-up; (e) are you aware of any lines in which unconscious or disguised motives might be playing a rôle—in emotions, in "difficulties," in dreams? Any evidence of undesirable and not understood repressions or resistances?

THIS section forms, and should be taken as an example of, the need for strict objectivity when dealing with the illimitable complexities of human personality. Here we are actually still at the first stage of scientific method—that of observation.

That this is necessary is made clear by a survey of the present status of views regarding the relative influence on personality development of heredity and environment.

Living is adaptation, and human person function is a particularly efficient adaptation, more or less. Since there is continuity of actual tissue and of genes from parent to child, it is obvious that there is a good chance—but nothing more—of structural similarity between offspring and ancestor. In the simple configurational patterns of the familiar mammalia this receives fair confirmation but, again, nothing more. The family of the thoroughbred horse, jealously guarded from contamination for now nearly two hundred years, bears this out. No breeder of blood-stock can predict anything of a foal, but he will be quite certain that some effect will result from the first year's nutrition and handling.

In the same way the basic reflex potentialities of the individual partly depend on the actual material of which he is made, material that was once part of the body of the parents. This, however, begins to be susceptible to modification of its growth and development by environmental factors at the very dawn of life, when the male and female cells fuse to form the new individual.

It is perhaps worth considering whether it would not be better to bracket heredity and environment together, and treat them, not as separate entities, but as aspects of a developmental process.

Certain caveats have to be made. Every mention of heredity includes the Bach family in one generation of which eighteen out of twenty-one were gifted musically. Hereditary diseases clearly exist. The transmission of colour vision defect is well known, passed by the unaffected mother from her father to her son. At the same time, differences in make-up of identical twins undoubtedly exist, although not dramatically, and can be traced to the fact of each twin having had a different environment from the other.

Evidently, as far as personality study goes, it is best to keep on the safe ground of objective inquiry from the individual subject. As soon as the problem is approached in this way it becomes obvious that there is a tendency to come down to the brass tacks of simple sensorimotor response potentiality. Myopia, speed due to length of limb, good rapid co-ordination may all be seen to be inherited, free from any consideration of environment, always with nutritional provisos—only extending to a limited degree, however.

The very greatest caution has to be exercised in the use of the very common phrases such as "He has his father's temper," because they may be unjustified and indicate a fatalism that is unhelpful.

Presumably, if we hark back to first principles and think once more of the reflex potentialities and their organisation, it is obvious that environmental evocation and opportunity will interact with these so as to make a complex where the elements are inseparable. The sensorimotor endowment of the marksman will have quite a different fate if no one gives him the chance to shoot; its fate may, in fact, either be in the sponsoring of some other reaction, where special

postural capacity is present, or the whole affair may be quite negative.

Naturally enough, since this principle affects the sensorimotor arc it also involves connector material, an essential part of the arc. Therefore, the special work of connector resources in "minding" has the same fate. The "mute inglorious Milton" and the "Cromwell guiltless of his country's blood" are real entities. If sensorimotor potentialities are handed down, so also must type of connector material and resource, but only type and nothing more.

Bearing these considerations in mind, we can yet see just for what it is worth and without theorising, the very early capitalising and push along certain lines on account of physical resemblance positively or negatively. The boy who is like his Uncle John is tacitly or overtly expected to resemble him in behaviour as in looks. If he clearly fails to do this, then such things are said as "He looks like his mother's family, but he takes after his father." It is in subtle ways like these that lines are laid down, and it may very well be said that we can, in fact, hardly distinguish heredity and environment.

We are on surer ground in regard to environment. Experience shows that good physique and good intelligence may be canalised in an indefinite number of ways, and a proper appreciation of the effect of personal contact, special training, social, economic and political status, and special emergencies may well give pause to all concerned with humans and particularly those in the younger years.

Possibly the most useful standpoint in regard to heredity and environment is one where stress is laid on the flatly physical and strictly "inherited" reaction potential on the one hand and, on the other, care taken really to recognise first the early appearance and, secondly, the vast scope of what may be called environment.

The survey of the hereditary and environmental factors has the valuable effect of evaluating once again and from yet another angle not only what the individual is but how he got to be what he is.

Apart from the physical potentialities, the non-mental factors of the make-up constitute an interesting aspect of the personality and can present considerable powers of modification. Relentless sea-sickness, for example, may or may not

interrupt a career. Hunger may produce anger and irritability in placid and controlled subjects. "A hungry man is an angry man" is an old and well-known proverb of significance for this and for yet another evidence of the rôle of the internal milieu. Other examples are afforded by allergies. Such factors as these, part of the make-up, inevitably force some cutting of the coat according to the cloth and form part of the special adaptation to the complex formed by capacity and environment.

The problem of unconscious motives, uncomprehended actions and feelings, and repressions and resistances is one where a certain amount of *petitio principii* seems unavoidable.

The attempt to narrow down motivation to something that could be concisely defined has had to give way to the acceptance of it as a word merely that can be used to subsume all that can or may arise from the metabolic situation and the neural arch (sensory-connector-motor), simply as the expression of the experiment of nature in the organisation of the subject. In considering motivation, therefore, it is essential to get rid of any notions that the precise motive for any behaviour can be sharply defined. The general looseness and elasticity of all human reactions—as opposed to the rigid behaviour of the lower animals—and the way in which all of an individual's history is the making of a biography woven into a close context, make it obvious that the search for concise motivation is simplistic.

It may well be that instead of thinking of motivation as being an event that starts something, we should think of it as a change of either pace or direction or type of activity in an organism which is already active. We should perhaps think of a continuum rather than a sequence of links, still less of separate links. It seems useful and tending away from dogma to think of motivation as pluralistic and involving every level of integration from the relatively low collaboration of hormonal and biochemical levels up to the psychobiological, singly or in combination, from time to time and from situation to situation. Even the resting point of satisfaction is not a closed door.

This is not to say that some account of the expected gains in behaviour cannot as a rule be got ; it does suggest, however, that we can never get the whole set of facts because of the dynamism, the element of futurity, and the complexity. Arising

out of this is the notion of behaviour from motivation which the individual appears unable to formulate. The idea of mixed motives is commonplace, and practically not only present but demonstrable in a high percentage of all behaviour. The notion of motives that are "unconscious" must be approached with caution for two reasons. First of all, the concept of consciousness as a "more or less" affair, not a matter of conscious-unconscious polarisation, discussed earlier, should be borne in mind. Secondly, all objective attempts to get satisfactory evidence for a dynamically active "unconscious," implying as it does a dichotomy in the organism which is a biological absurdity, have failed. It is, however, of considerable value to establish first of all for oneself just how much there is of one's own behaviour, overt or implicit, which can with truth be described as resting on a background of uncleanness, also to be stated in terms of unconscious disguised motive with repression and resistance to an uncovering of origins. In order that the thinking of the student of personality may be objective and free from dogma as far as possible, it is essential that this scrutiny be carefully and honestly carried out, step by step, with defining of the terms of reference as far as possible. In no other way can the approach to the motivations of others be made relatively sure-footed.

It is perhaps useful at the outset to take account of the possibility that formulation of motive for behaviour that has occurred, and formulation of the alternative motives and alternative lines of behaviour that were imagined and rejected, may be rather different when this takes place for the subject only inside his own mind and when it has to be verbalised for the benefit of another. It was once suggested somewhere that there was something in the life of everyone that they would by no means ever consent to write down, even if they did not need to show it and could immediately destroy the writing. It has also been suggested that if a number of people got a telegram to say "Everything has been discovered, fly at once," a good many would begin to pack!

It may well be that a part of this question of unconscious motivation, repression, and resistance to uncovering of the disguised motive may be a function of rationalisation. Rationalisation is as hard to define as most of the concepts

with which we are forced to deal. The word tracks back to the Latin root *AR*, to fit, and behaviour which is rational is socially fitting or acceptable behaviour. If it does not appear to be fitting, then an explanation, a rationalisation, must be given to show that there is suitability in it, to show, in extreme cases, that there's method in the madness.

It is obvious that the fittingness element is in relation to society, the behaviour must be such that part of the satisfaction formula (approval of others) is equated, and this may be done either by having the behaviour in reality such as to win the approval of others or to interpret the behaviour verbally so as to give it the semblance of social acceptability. Everybody knows that children have most unfortunately, in many cases, to be laboriously drilled into refraining from doing what they want to do and from saying what they think. This process ("shades of the prison house begin to close about the growing boy") also occurs on a "more or less" basis, and it is probably important to take note of the extent. Clearly, several variables are operating. These are : the inborn action and balance potential and the hormonal influences ; secondly, the actual behaviour and standards of the individuals in the environment ; and thirdly, the way in which the drives of the child are handled. According to these, so will the degree of rationalisation vary. The more actually approved the behaviour is, the less room there is for rationalisation, and conversely (*qui s'excuse s'accuse*). Explanation, rationalisation, is merely a kind of excuse closely bound with the notion of being valued by the community.

Now, however, on the other hand, there is little justification for valuing the approval of others and the blessing of society, if it is a society that is founded on some principles that are morally unsound, so that one is now confronted with the difficult task of elaborating a fundamental moral law resting, maybe, on notions of safety of life and goods or perhaps life alone.

Practically we tend to accept as rational, behaviour or formulation of behaviour with which we agree, thus showing our own standards.

Since motivation, if it may truly be considered as an entity, is of extreme complexity hanging on the chain of psychological events of every kind from the beginning of life up to the very moment of the behaviour in question, then it may

be relatively useless to become entangled with minutiae of origin but to insist on the evaluation of what is actually doing in terms of critical common sense. Is the behaviour leading to the equation of the satisfaction formula or not?

We must again consider that three factors have to be taken into account in attempting to come to some conclusion as to unconscious or disguised motivation. First, there is motivation itself. It seems, to recapitulate, as if we had to accept motivation, not as an episode of stimulation but as one aspect of the process of living tending towards a continuance. Evidently it is a complex and cannot be reduced to terms of stimulus-response, but partakes of stimulus and connector and response elements—all hanging together in a space-time continuum which is the whole biography.

Secondly, there is the question of association of ideas. There is a tendency at times to simplify this also as if one idea (probably a complex of primary and secondary symbolisation) merely led to another in the chain, tending to track in some significant direction. This may indeed be so easily done deliberately by giving a random starting word and inviting oneself or a subject to get to another idea by a sequence of associations as to produce some caution in speaking of "free" association. It is difficult to get a simile for the complicated sequence that actually seems to take place. Evidently, however, the replacement of one idea by another in a sequence is a process where there is a selection and rejection amongst a set of items of quite enormous and uncountable number, rather than binding it down to the idea of a sequence of ideas. Meyer speaks of human behaviour, psychobiologically integrated, *i.e.*, with mentation as a process of potentially delayed action—the implicit activity inherent in thinking or minding—"hanging together in a flow of meanings." This goes some way to correcting the over-simple notion of a one-track line of ideas.

Thirdly, out of the foregoing, we have to gather up again the notion of rationalising, bearing in mind that rationalising is specifically working with motivations and the "flow of meanings." Along with rationalising we must recognise the collaboration of habit formation and conditioning, and the fact that unless the need for communicating the affair to another person arises, rationalisation, in its full-fledged form,

will not appear. Furthermore, the relationship between the rationaliser and his hearer or questioner may modify the context of the rationalisation story. It has also to be considered that few actions of humans are unitary affairs, and are thus susceptible of considerable variation in distribution of emphasis amongst the items both of apparent starting point and end point. Inevitably, training will modify this distribution of emphasis so as to render some items clear and others somewhat tenuous in terms of their social or other acceptability. The existence of the less acceptable items may be denied by the subject, but it is questionable if this does not depend on the individuality and intimacy of the questioner. It is questionable also just what happens in the majority of cases where the questioner is the subject himself. Everyone should, and can, check this for himself.

It seems as if we really should discard the notion of clear-cut motivation and the possibility of its being conscious or unconscious in favour of a "more or less" situation at once looser, more complex, and more workable.

The discussion of this type of problem can only be soundly based on careful scrutiny of the subject's own personal data, not on an introspectionist basis, but with the firm application of the touchstone of the actual doing and performance and results both of self and others. We must always ask, "Does it work, or how does it work?"

*Enumerate the events, experiences, and situations in your life which constitute special determining tendencies, in the form of an index of the most significant results of the personality study.
What, in the light of the above, is your general formula of study of any complaint or psychobiological problem.*

Whereas a plea has been made for a non-dogmatic approach to the problem of motivation, it should be possible for the subject who has carried out the task to arrange the items of the personality study in a system showing the way in which the biography appears to have been a sequence of major events and experiences leading the one into the other. This has arisen before (see Action Tendencies). Here the special concern is to see if any reliable general conclusions can be drawn as far as the individual is concerned (and his group

of controls) in regard to the types of experience liable to set up or mobilise a trend. This, it is notorious, varies within the very wide limits of the framework of the normal.

The question is one of distribution of emphasis within the detailed scheme of the personality study, so as to show the subject what have been, for him and for his group of controls, the items most productive of useful data.

This, then, has to be applied generally, and as a final task we have to get a formulation from the subject, as a result of his own working of it, of the way in which the personality study might be applied to the scrutiny of a personality presenting complaint or problem. The individual who has to work with humans has to obey rather specially the injunction "To thine own self be true." He cannot do this unless he has some degree of knowledge of the organisation of his own personality and that of a group of others, imperfect though this must be. Every individual who has honestly carried out the personality study will use it to approach the problem of others in his own way from the point of departure of his own make-up with some special sureness and tact and sympathy, which comes from the knowledge of how it feels to have to put one's own cards on the table. The concrete material of the actual observed working of a human being as a psychobiologically integrated organism should be in the minds of workers with personality in a handy, systematic, and well-balanced form when any person has to be examined, whenever we deal with man. All this must be on a basis of non-dogmatic, critical, common-sense observation, and it is fair to assume that the careful use of the items of the Personality Study will form such a basis.

"The first consideration for sound psychiatry consists of the gathering and recording and co-ordinating the data with which one works and by which one is guided from day to day" (Meyer).

CHAPTER XIV

MINOR PERSONALITY DISORDERS

THE NEUROSES OR MERERGASIAS

"The supreme medical standard is adequate or efficient function."
—MEYER.

THESE words can serve as a definition of health, particularly from the point of view of adaptation as being bound up with the whole idea of life and living. The words "health," "hale," and "whole," all related to one another, track from a Sanskrit root *KAR*, to make. At the back of all, therefore, is the notion that health is "adequate or efficient function," in order to make, to do.

This is a point in the contemplation of human activity, where the looseness and multiple potentiality of it are emphasised by Meyer's use here of the term "adequate" function. It is obvious that the adequacy of function is subject to the widest possible range of variation in terms of type of environment and the organisation of the subject and the extent to which the individual can effect changes in both his environment and himself so as to equate them in an adaptation. Here there can be no absolutism. This principle, elaborated before, is here seen from a new angle where the standard of adaptation becomes now a medical matter and an affair of health.

When once the question of health is thus placed on the broadest possible basis, it is easier to accept the well-established estimate that between 30 and 40 per cent. of all individuals who consult physicians are suffering from that type of ill-health (reduction of adequacy or efficiency of function) known as neurosis.

For these conditions Meyer proposed the name Merergasias (*meros*, part; *ergasia*, behaviour), so as to indicate a loss of adequacy of adaptation as part of *person function* and not as determined by disturbances affecting lower levels of integration on a so-called inframental level, such as organ and system disease.

These disturbances of functional efficiency lead inevitably to complaint which is formulated to the medical adviser, and this enables us to describe the sufferer from neurosis as predominantly a complainer. The complaint is the formulation of the factors involved in the relative adaptive failure which constitutes the ill-health, here assuming the form of a neurotic reaction, a maladaptation involving the whole person, and dragging in, as it were, inframental levels of integration to a varying extent.

It should be obvious that adaptation in general consists fundamentally of the ability on the part of the individual for action, implicit or overt, but which depends in the last analysis on movements of the body's levers, either those of the subject or of someone whom he instructs. Thus disturbances of the capacity for physical movement can obviously interfere with adaptation defined in this way. Physical illness involving sensory disturbance or loss, and motor reduction, clearly reduce the individual's adaptive capacity, and this is so obvious as hardly to require emphasis. It was a well-known European psychiatrist who, with that penetration sometimes given to those using a language other than their own, said : "Without my keys I am an invalid, for I cannot get about."

Everybody who has experience of humans undergoing the handicaps of physical disease knows that we can divide people in these conditions into two main groups. First of all, there are those for whom the adaptive handicap of the physical illness constitutes a challenge to the ingenuity of the individual and may be thereby compensated for and largely overcome.

History is full of examples of individuals who have got around disorders and reductions both of sensation and movement.

Secondly, however, there is a group of individuals in whom the reduction produces such a degree of doubt as to adaptive capacity and such concern regarding the possibility of maintaining the adaptations in the future as to produce disturbances in symbolising function, that is to say, in the thinking, and also disturbances in the emotions so as to produce a state where the handicap is enormously increased and where recovery from the physical illness is interfered with.

Every experienced physician knows this very well. He knows that, put in another way, the attitude of mind of the sick will enormously modify the course of the illness. Physiological research is adding rapidly to our certainty that this phenomenon is due to disturbances of the internal milieu, and details and facts are accumulating daily. This can be stated in another way, and it may truly be said that for a large number of people suffering from straightforward physical ill-health there is accompanying disturbance of total personality function amounting to mild neurotic features. We might therefore say that in a large number of cases physical illness is accompanied by a degree of psychological upset. This is the very real converse of the possibly over-emphasised psychosomatic type of disorder where the minding and the emotions are disturbing lower levels of integration in organ and system.

It is extremely important for everyone who works with humans to recognise this because of its value for enhancing their powers to help, and consequently it should be borne in mind when we consider the estimate quoted earlier that one-third to one-half of all persons going to physicians for help are neurotics.

On this point one must emphasise with very great care perhaps the most important caveat in the whole matter of dealing with psychological reaction. This is to the effect that unless a strictly and rigidly observed attitude of objectivity is maintained in the scrutiny of all cases of ill-health, there is grave danger of mistaking physical diseases for psychological disorder to just as great an extent as there is danger of mistaking the reverse.

The history of psychiatry is full of case records that can be regarded as flat tragedies as a result of this error. Adolf Meyer quotes the case of a girl who suffered for many years from tuberculosis of the vertebræ, which was treated with mental hygiene "pep talks," while the real nature of the condition was undiscovered until too late. Examples of this kind can be multiplied, and they are the result of a "wholesale" attitude biased to one or the other hand. Formerly, but now rarely, one saw the tragic figure of the woman, complaining of symptoms due to anxiety, who arrived at last at the psychiatrist in the state described as an "eviscerated shell"

as a result of innumerable operations. No less tragic, however, is the individual in whom a neurasthenic debility, so regarded, turns out to be pulmonary tuberculosis. This would seem rather an obvious and elementary trap in which one would not readily fall. Experience, however, shows that this is far from being the case, and constant alertness must be kept up. Everyone knows the fable of the boy who cried "Wolf."

With these considerations in mind it should be possible to inspect the idea of the more or less pure neurotic reaction with a fairly unbiased and objective attitude of mind. Physical illness is an affair which concerns, as far as adaptation goes, the sensory and motor ends of the neural arc. The neurotic disturbances, however, constituting as they do disorders of adaptation occurring at the highest level, that is to say, the level of psychobiological integration, are concerned very largely with the connector material between sensory and motor. Put in another way, this means that neurotic reactions are failures or partial failures of adaptations on account of some inadequacy in the connector material, in the thinking, in the system of delayed reflexes involving the *total* integration of the subject.

This is not difficult to clarify. The situation is that the individual learns of the world around him and its demands on him through the medium of his senses. What he learns in this way is naturally thrown together with everything else that has happened, and with ideas as to what may happen, in the nexus of associations of ideas, mind's-eye pictures, mind's-ear sounds, memories of movements, anticipations, and fancies and so on, all hanging together in what Meyer calls a "flow of meanings," a steady and relatively unbroken sequence of situations calling for some action on the part of the individual now or later on.

The supreme test of this action is whether or not it is going to lead to the continued living of the subject in a state of comfort or peace or satisfaction or whatever of that kind is formulated by the individual. If the interpretation of the environment by the subject turns out to be that it is something which he thinks he can manage, then there will be a smooth continuity, taking into account, of course, the fact that no one spends his life in a state of continuous confidence. It is an affair once more of "more or less" rather than "either-or."

If, on the other hand, the interpretation by the subject of his environment endows it with the meaning that it is something with which he cannot cope with the resources at his command, then certain disturbances are set up. These disturbances affect sensation, movement, what happens in the connector material—that is to say, thinking and feeling—and also profoundly influence the state of the internal milieu. The state of the internal milieu in turn exercises the most profound influence upon the adaptive capacity of the individual, for it is the springboard of all action. The simplest illustration of this is shown in the acceleration of pulse and rise in blood-pressure and blood sugar which follow on certain types of stimuli and enable the challenge of these stimuli to be adequately met. On the other hand, these and other appropriate measures become inappropriate and harmful when they are excessive, and a useful acceleration of the pulse and rise in blood-pressure will profoundly disturb the individual if it is too great or goes on too long.

In considering the interpretation by the subject of the meanings in his environment, we have to bear in mind the rôle of frustration, dilemma, and what may be called discriminative overstrain. It was the work on conditioned responses carried out by Pavlov and his school that gave us an insight into this. It was found by these workers that animals—first of all, dogs—developed a generalised disturbance of behaviour corresponding very closely to anxiety reactions if they were faced with the task of differentiating between two rates of a metronome that were only different from one another by ten or fifteen beats per minute, when one rate was a signal for food and the other rate the signal for some noxious or in some way disagreeable stimulus. Some dogs, when exposed to this technique, simply turned away from the whole situation, others went on trying, and a third group developed a restlessness, tension, irregularity of habits, such as a breakdown in cleanliness (*i.e.*, habit disorganisation), excitement and inability for continuous activity, sexual disorders, and were irregular and jerky in their responses generally. In some animals this turned out to be an irreversible reaction, and they never got better. Other dogs, with rest and sedation, did recover, but easily broke down again. Yet another group showed disappearance of the

symptoms if they were taken away from the laboratory and placed in an ordinary home in the country ; brought back to the laboratory they showed a slight recurrence of symptoms, and taken actually to the site of the experiment showed a full-blown relapse almost immediately.

The implications of this are obvious, and we can see very readily the operation of this probably in humans where lack of outlets leading to satisfactions, apparently insoluble decisions, and very difficult decisions provoke rather specific anxiety reactions.

It is for those who work with problems of this kind to scrutinise the situation, for obviously we are here involved rather deeply with the whole question of the individual's philosophy of life as part of the experiment of nature leading to his own practical capacity for evaluation of environments *vis-à-vis* his own concept of his adaptive potentialities. Obviously the individual's status in this respect must be a thing to be reviewed very carefully from the historical point of view, taking into account everything that can be got, precisely along the lines indicated in the Personality Study under such headings as, for example, organisation of choice and decision and the arrangement of the satisfaction formula.

To sum up, therefore, we may say quite simply that those reductions of adaptation which we can call neurosis are the expression of fear of adaptive failure. This is an illustration of a principle well known to the plain man that the fear of something may very well bring it about. Fear of adaptive failure which is in the mind of the neurotic subject is due to his analysis of the situation in which he is placed, an analysis carried out by symbolising function ; and the analysis which he makes is one which owes something to his philosophy of life which in turn may be a product of any number of different environmental influences, parents, teachers, friends, experiences, and so on which may be clear or quite unclear to him. At the same time he may or he may not be an individual in whom the involuntary nervous system and the system of endocrine glands have a certain lability, so that imaginal stimuli provoke vegetative reaction and disturbances of the body chemistry which, although in the right direction, will be grossly overdone, as has been mentioned before, and will lead to quite clear-cut feeling of motility

incapacity and still further reduce the adaptive potential. It is therefore not difficult to understand how neurotic reactions characteristically show in clinical practice not only a disturbance of the peace of mind but also disturbances of actual physical function as evidence of a philosophy of life instinct with doubt and fear.

Naturally this reaction is susceptible of simple amelioration or worsening in terms of fatigue, cold, intercurrent ill-health, and straightforward environmental changes of a material nature for better or worse. Consequently it has to be recognised that in considering neurotic reactions we must be guided by the very same principles that should guide us in the observation of behaviour of humans in all directions, namely, the principles of dynamic pluralism, the broadest and most flexible outlook, ready to take into account everything that can be got at as fact, untrammelled by dogma of any kind, by theories, by preconceived ideas.

Fundamentally we are dealing with the organism and its environment, with endowment and with setting, and we will therefore be forced to accept it that what is too much for the adaptive possibilities of one person will not be too much for the adaptive possibilities of another, that in a situation of adaptive difficulty some people will improve and some people will get worse, others will remain about where they started, and these three possibilities will be modified by every sort of factor that can come into the setting from climatic conditions to the size of the pay envelope. Looked at in another way, we would be in the position where we would be taking account of the personal interpretation made by the subject of his personal picture of the world and his estimate of his ability to react to the implication of his interpretations.

THE NEUROTIC CONSTITUTION

Although this concept has repeatedly been the subject of attempts at formulation, it is questionable whether it is right that we should allow ourselves to be bound down to any hard-and-fast set of criteria, because to do this inevitably drags in forecasting and reduces that melioristic attitude so essential in all who work with humans.

Experience suggests that disturbance can be set up as a

result of adaptive overstrain in individuals who have previously shown no evidence whatever of finding difficulty in this direction. The exceptional circumstances of flying during the 1939 war gave examples of this, where very carefully selected individuals of the highest adaptive capacity yet showed nervous symptoms if they were taxed too highly or for too long a period.

On the other hand, it seems clear that those relative adaptive failures of a neurotic type do also occur in a setting where from an early age there has been a tendency to over-reactivity towards stimuli and an exaggerated response in terms quite simply of fear. This is a question of "more or less" once more and not "either-or." The necessity for guidance by fear impulses is so obvious as to require no emphasis, and the dividing line between what might be described as ordinary anxiety as to the capacity to cope with the situation and the exaggerated response of fear and anxiety which actually reduces the ability to cope is a line which is by no means a clear-cut one. The word "cope" was originally used in the sense of bargaining or coming to terms with.

Such a dividing zone nevertheless exists and, of course, people will be more or less on one or the other side of it. As a result, actual physical endowment and, inextricably meshed with it, the philosophy of life produced by environment and training, will clearly modify one another, and this requires no elaboration.

There is commonly in neurotic subjects a background where we can see hesitancy, timidity, lack of combativeness, inability to accept the world as it is, idealism, a great desire for love and for kindness, a meekness and a tendency to be misunderstood, easily led and easily misled, constantly requiring stimulating and urging, a tendency to yield, avoidance of trouble, of decision and of action, responsibilities are dodged, the activities, such as they are, tend to be quiet, and the job in life which is sought for is usually a quiet one. These factors may be partly due to the individual's experience that certain situations provoke in him such a degree of turmoil, the product of physiological upheaval, that he naturally tries to avoid them; but the avoidance is rendered difficult because of symbolising function, that is to say, the resources of mentation or thinking are usually very great and imagination is

vigorous. In addition, such individuals are commonly superior in intellect, which leads to ambitiousness and to production of the situation of "letting 'I dare not' wait upon 'I would,'" so that there is then a situation where there is both ambition, which is quite justifiable, and incapacity to carry out the actions necessary to fulfil ambition, with resulting frustration. The spirit is willing but the flesh is weak. The sequence of this is that there is an almost continuous uneasiness and unproductive tension unless things are going very well with the individual. It must be obvious that what is here described, which is derived from Meyer's analysis of the Neurotic Constitution, expresses a situation in which practically all human beings have a share but where fear is underlined.

Along those broad lines failures of adaptation assuming the form of neurosis tend to group into a number of categories, and these are Anxiety States, Obsessive Compulsive Tension States, Hypochondria, Neurasthenia, and Hysteria.

These reaction types, while they may be seen more or less in pure culture, do also commonly show themselves as mixed states, and on account of this it is useful to remember that for the practical management of the conditions one should be concerned with the actual complaints and behaviour of the patient whom we are trying to help rather than with the search for a label.

CHAPTER XV

ANXIETY STATES

THIS group of neurotic reactions accounts for the major proportion of all cases. The basic formula of the symptoms of these states is simple, and is made up of feelings of fear and physical sensations and disturbances referable to the disorderly action of the involuntary nervous system and the organs and systems innervated by it. On this simple basis there is superimposed a body of symptoms whose name is legion.

The minding or thinking of the patient is disturbed by the presence of fears, which may be general or specific. The general fears assume the form of waves of terror coming quite suddenly over the individual and producing the effect of making him wish to run away or rooting him to the spot. In every case his adaptive capacity for the job in hand is seriously interfered with. This is the commonly spoken of "unknown fear," but if subjects who present this symptom are carefully and sympathetically interrogated it will be found with great consistence that the unknown fear becomes rather specific and is usually formulated by the individual as a clear-cut dread that he will suddenly become insane, collapse, or in some way lose control of himself and behave in a way with which we commonly associate the individual in a state of panic terror. One subject, for example, after considerable time had been devoted to the discussion of his unknown fear, stated, "Well, I feel as if I might throw away my hat and run screaming up the street."

If this dramatic form is absent, then every shade of apprehensiveness can be seen assuming the general form of a feeling that something "awful," *i.e.*, impossible of adapting to, is going to happen, and this cannot be specified.

It should be noted, however, that this apprehensiveness is not far away from the more or less common tendency to cross bridges before they are come to and the even more normal and accepted need for some sort of foresight. Everybody more or less anticipates. We here deal with anxious anticipation,

not intelligent anticipation, and the picture that is made of the situations that are to come is wide of the mark. It is not a case of too much imagination but of distortion. It is interesting that the plain man has usually tended to call this sort of thing "losing one's head," and, in fact, it seems as if really it were a case of losing the head in so far as efficient symbolising function, the work of the cerebral cortex, were reduced sometimes almost to vanishing point.

In actuality these fears of panic behaviour are seldom realised, but very often a considerable degree of restlessness may be seen ; and this restlessness, consisting as it does of pacing around, moving articles, and frequently smoking a good deal, in some way seems to the subject a method of easing up the tension, although it is doubtful if it really does so. It is from this that the classical and commonest of all the features of this condition, namely, claustrophobia, has sprung. The whole basis of uneasiness corresponding to claustrophobia depends merely on the fact the individual thinks he may be unable to move around if he feels he must do so as a result of feelings of dread and apprehension. It is quite easy clinically to demonstrate the variability of claustrophobic acuteness according to the degree of restriction of movement felt by the subject. For example, the subject will be uneasy if he is sitting in a theatre in the middle of a row, but will be quite at ease at the end of a row because he knows that he can, without creating any disturbance, get up and walk away. This applies also, of course, to the unaccountable claustrophobic situation felt by various subjects in elevators, trains, street cars, buses, small rooms, and motor cars ; but typically not motor cars which the subject himself is driving, for when the subject is driving the situation is under his control and he can at any time alter it. The "unknown fear" may thus be generalised and not attached to any particular stimulus, or it may be attached to some particular situation when it is given the name of phobia—that is to say, a fear of something which in itself has no inherent dangerous signification.

The "unknown fear" in its pure form appears quite suddenly in all sorts of different situations, and the individual never knows when it is going to appear. The consequence of this is naturally to produce very elaborate substitutive reactions,

so that the individual may as well as possible avoid being caught by these waves of fear in an unsupported situation. This is commonly quite simply illustrated by the very frequent appearance in anxiety sufferers of reluctance to go out alone. As long as they are accompanied they may be free from symptoms.

On the other hand, the phobic subject may have attacks of nameless dread at unexpected times, but for the most part experiences acute fear in certain settings. It is often not difficult to demonstrate how these situations arise.

The subject was a young girl of 24, a school teacher, who was unable to pursue her work because it involved travelling by street car to and from the school where she worked, and whenever she entered a street car she expressed feelings of almost ungovernable terror.

She was a sensitive, imaginative girl of somewhat frail physique, but without any physical or mental ill-health in her background. The home was a stable one from an economic and financial point of view. Her school and university career was successful and uncomplicated save for one feature, and this was that as a result of incompetent teaching at an early stage in her school career she was poor at mathematics. In order to fulfil a very important ambition in her life it was essential that she pass an examination in mathematics on rather a high level. This involved constant study and special coaching, and was taxing her confidence and her resources generally very considerably. She was naturally preoccupied with it a good deal of the time. She was sitting in a street car when the thought crystallised in her mind that she was going to sit the examination in two weeks' time and would certainly fail. The emotions which accompanied this idea produced a very marked physical disturbance consisting of respiratory embarrassment, palpitation and great rapidity of the heart, perspiration, and a general trembling and feeling of nausea and suffocation. She immediately got out of the street car with the conviction that she would never get into one again without the same feeling reappearing.

This simple example of the development of a phobia which, as it happened, was not difficult to deal with contrasts with the following :—

The patient was a young man of 30, who had been afraid of all forms of wheeled transport, except motor cars which he was driving himself, since he was a student. This fear was growing and spreading, so that he was compelled to travel long distances by bicycle in order to avoid using public conveyances. His home and his school life were uncomplicated. He had been a normal boy

inclined to artistic and imaginative work, but not emotionally unstable or prone to fears. Specifically, for example, he had been fond of sledging, which had given him no alarm, but rather a thrill—even when practised on what were regarded as dangerous slopes.

When he started attending college from his own home it was necessary for him to take a street car. The track ran downhill for a long distance, and at one point the street car left the roadway to run on its track by the side of the road as if it were a railway. This particular part of the track was rather uneven, and the street car swayed greatly at this stage. After one trip on this particular piece of track the patient developed the idea that the street car would get out of control and that he would be, as he put it, "carried away." It emerged that this feeling was accompanied by a considerable amount of abdominal discomfort in the nature of the "sinking feelings" known to everyone. He started to join the street car after it had finished this part of its journey, but was able to travel in other conveyances, but only if they were not going downhill; then symptoms began to appear whether the vehicles were going downhill or not, and finally he was unable to get into any public conveyance of any kind.

He recognised that if his mind were distracted by conversation he experienced no sensations at all, but no attempt whatever had been made by him even to try to face and control his fears.

As an example of more generalised fears unattached to any specific thing, we may quote the following case:—

The patient, a married woman of 40, presented as her complaint feelings of fear and alarm appearing at all times, accompanied by feelings of suffocation, palpitation and irregularity of the heart, trembling, and feelings of being hot and cold time about. Although these symptoms would appear at any time, they appeared constantly and consistently when she went out alone. She said they came on when she went out alone, for she was afraid that in some way she would lose control of herself.

This woman was brought up as one of a large family and in a stable and financially well-to-do home. There was no disturbance in her childhood of any kind. She had been a popular and lively member of the family and the community in which she lived. An engagement to be married proved a source of distress on account of uncertainty as to the stability offered by the marriage, due to the temperament of the fiancé, and this engagement was ultimately broken off, causing considerable distress. The patient then shortly afterwards married, but without any very great affection for her husband, with whom she was quite frank about this. The husband was not very acceptable to her family, and not long after they were married got slightly intoxicated and gave the patient a very severe talking to. This happened on more than one occasion. During

the 1939 war the patient was evacuated for safety, and found the environment to which she had been evacuated was one where she was with difficulty able to fit in. She found this a great strain. Before the war ended she returned from the evacuation area, her husband being absent on war service, and began to have great difficulty with their only child, who began to show signs of considerable difficulty at school with reluctance to go to school and evident unhappiness, anxiety about ability to do the work, and so on. The patient had great difficulty in organising this situation and finally had to take the child away from school on account of an increase in the acute nervous disturbance which she was showing, taking the form of sleeplessness and extreme anxiety. At the end of this period the war came to an end, and the husband returned home to an unsatisfactory situation where the home seemed to have got disorganised. The child had been absent from school for several months, and the patient was disturbed about the way the situation had developed. Shortly afterwards she developed the clear-cut features of the complaint, and it is interesting to note this only developed after this patient had quite evidently been under considerable strain for a matter of fifteen or sixteen years.

This case indicates a commonly seen principle, namely, that anxiety states may appear as a result of stresses and strains that have been imposed on the subject extending over a very long period of time before the symptoms developed.

Another sub-group of anxiety phenomena is one where the major emphasis is laid by the patient on some physical sensation or disturbance rather than on the mood or emotional tone.

The patient was a woman who when first seen had reached the age of 60 and had been ill for about fifteen years. The complaint was "turmoil" in her head, curious sensations inside her head, and a tendency for words, as she said, "to go round and round in her mind." It was not a question of any specific word or phrase or of repetition of any sort, but merely a feeling of jangledness. It was only when she was asleep that she was free from this symptom, and she was also completely free from it when coming out of pentothal anaesthesia.

The patient was a teacher of considerable ability, but she was working in a school where there was disharmony between herself and the headmistress, which produced a feeling of lack of peace of mind on the part of the subject with gradual intensification over a period of about twelve or fourteen years. This difficult situation was, however, within measurable distance of being terminated on account of the transfer of the headmistress when the patient, walking one day to school, and thinking about the problem of her adaptation to the occupational difficulties, suddenly heard a sharp bang. She assumed that it was a boy firing a cap pistol near by, but when this

turned out not to be the case she concluded that the noise had come from inside her own head and that something rather serious had happened. She was not altogether surprised because she had had feelings of tension in her head, and she thought something had at last given way. Very soon after this she stopped work and devoted herself entirely to being an invalid, progressively less and less able to do anything and more and more dependent on her family.

This case illustrates two points, the so-called "psycholeptic" attack appearing in people under tension as a heard and felt snap inside the head leading, of course, to very great terror on account of the fear that something has seriously gone wrong. This is naturally linked with the general fear common to nervous subjects that they are headed for mental derangement. This case also illustrates again the tendency for anxiety only to appear after a very long period of stress, but also unreasonably to appear when the strain is over or about to be over.

Physiological research seems to be quite parallel to these observations. The vegetative and hormonal disturbances produced by any threat to the integrity of the individual, whether this threat is clearly biological, such as fatigue or exposure, or more psychological, taking the form of difficult life situations, seem all to have as a lowest common denominator the fundamental question of adaptation. It seems as if the adaptive overstrain ultimately produces biological disturbances appearing earlier or later in accordance with their essential nature and with the resistance capacity of the individual.

Although the neuroses are described and here referred to as minor disorders, this is to some extent a courtesy title, as the following case will illustrate :—

The patient was a single woman of 64, by profession a nurse, and, although sensitive, an individual of high responsibility and integrity and markedly free from self-centredness. She liked and was good at her work, and was highly respected and trusted by her superiors. The complaint was forcible and rapid action of the heart to such an extent as to produce obstinate sleeplessness. She could not lie on her left side because of the noise made by her heart, and if she lay on her right side she had to take her left arm away from the trunk so as to reduce the feeling of vibration. She was only able to sleep on her back, and this was uncomfortable.

At the age of 11 she began to observe that her father, who had a good business, was slowly ruining it and their home by drinking. She was terrified by his appearance when intoxicated, and was

constantly worried when he was absent as to how he would be when next she saw him. Their economic position slowly declined. She had the humiliation of knowing at school that her fees had not been paid, and the home was gradually whittled away until, when she was about 20 years old, her father finally left home and more or less disappeared. This left the patient with her mother, and they struggled along, the patient doing odd jobs here and there. She knew, however, that this was planless and at the age of 30 managed to get a training of a nursing type. All during this period she had had the palpitation of which she complained when seen. Twelve years before she was seen the condition was so severe that she had an elaborate overhaul by internists and cardiologists. Their findings were negative, and almost six months in bed failed to modify her condition in any way, and she returned to work struggling on gamely and doing her best to pay no attention to her symptoms. She discovered that fatigue and doubt as to her ability to overtake her work within a given time intensified the condition so as to make it almost unbearable.

This case illustrates the very common situation, which must be faced and recognised, that anxiety and worry may in people of high integrity and sound character produce symptoms that may be lifelong and unmodifiable. Yet, another modification of the manifestations of this very large group of conditions is shown by the situation of the "last straw."

The patient was a married woman of 40 who complained of fears of going out alone, troubled sleep with bad dreams, feelings of apprehensive dread, lack of appetite and inability to get food down, attacks of sweating and trembling. These symptoms developed immediately following a severe accidental and unexpected electric shock, and this was blamed for her condition as being the causal factor.

It emerged at once, however, that the episode occurred a month or two after a period of time when she had been highly distressed by a month spent motoring in extremely mountainous country where the roads in many cases were at the edge of a precipice. She had always been nervous of heights, and this experience meant that for about four weeks she was in a state of almost continuous fear, sweating, and sleeping badly.

Going further back, it emerged that this patient was not specifically nervous but was an active, outgoing, energetic individual with high resources of energy whose only handicap had been a tendency to be slightly over-conscious as a girl at school, and in her early days before she married she had actually been in several motor accidents none of which had shaken her at all.

This case illustrates the way in which an individual's powers of adaptation to a fear-producing situation may in

some way which is not fully understood deplete something in the nature of resources, so that, even at the lapse of some time, another episode producing fear may establish a fear reaction that goes on independently of the setting.

These cases illustrate a few of the ways in which the reaction of anxiety may arise and appear, divided, as has been said, into two main groups—one consisting chiefly of feelings of apprehensiveness, worry, and anxiety and the other consisting of physical disturbances resting on the vegetative disturbances accompanying fear. It is worth noting, in passing, that the purely psychological aspect of these reaction types exercises a far-reaching handicapping influence on the adaptive apart from the purely disturbing effect of fear. It is typically seen, for instance, that inadequacy of memory, concentration, and that synthetic capacity generally described as putting two and two together are all markedly reduced by the presence of even mild anxiety. This is worth noting in connection with students and people who have to engage in activities involving these capacities. It is common that anxiety and apprehensiveness in examinations exercise a paralysing effect rather than a stimulating one, and this may very largely be overcome by conditioning the individual to the situation—for example, the examination setting.

Alcohol has, it is well known, a specific action on anxiety, markedly reducing it almost at once. On this account, episodes of over-indulgence in alcohol are not uncommon in anxious subjects if the strains of life are intensified. Such individuals, rather interestingly, seldom or never become alcoholics in the accepted sense of the term which indicates generally psychopathy ; rather they tend to stop drinking when the strain is less without any particular effort.

Aggressiveness is another odd sign of anxiety. The anxious sufferer is, as a rule, exposed to endless frustrations due to his fearfulness, and he is inclined to be an appeaser for the same reason. This occasionally reaches a level where there is a sort of boiling over in an exaggerated attack reaction. The coupling between fear, anger, and aggression is readily illustrated in its normal form by the prickly behaviour of small dogs and small men. Clinically it is important and useful to recognise this sometimes important reaction for it may be readily misunderstood, especially in the family setting.

The association between sexuality and anxiety is one which has for long been recognised. It was at one time even suggested that anxiety depended on the presence of sexual frustration as a unitary cause. This is, of course, not the case. Clinical experience shows that anxiety and sexuality are linked up on account of the clear-cut fact that smooth sexual performance is inhibited by anxiety and, on the other hand, that a degree of sexual irritability is often the result of that disturbance of the vegetative background which is inherent in anxiety states. The practical problems are relative impotency of varying degrees on the part of the males who have developed fear of sexual competence, usually as a result of a guilt situation in the background or who fail sexually as a result of attempting sexual activity while loaded down by anxiety from some other cause. These interferences may probably be thought of as being the result of disturbances in tension in involuntary muscle specifically and almost mechanically militating against erection and ejaculation. The sexual excitability tends to be low and presents irregular upsurges at all sorts of times.

This disability has its counterpart in the female, where it is constantly observed that anxiety from whatever cause can produce lack of interest and frigidity and may also, even in the absence of frigidity, lead to failure to conceive for no reason that can be discovered from the hormonal or purely biological angle. It is, for example, frequently observed that married couples who have been childless frequently succeed in having children when the environmental situation is eased up, leading to reduction in tension. Naturally, also, the menstrual periods are rendered irregular or absent by anxiety and even by mild worry.

On the definitely physical side it is practically impossible to give a list of symptoms that would be complete. There is almost no feeling of which the human body is capable that may not be produced by anxiety. In the skin sweating, numbness and tingling, sensations of hot and cold, itch and crawling sensations of all sorts may be seen. As regards the distance receptors, a ringing in the ears is common, and in association with this mechanism feelings of unsteadiness and lack of co-ordination in balance are frequent. Visual disturbances of all types exists also. The individual is constantly uncomfortably aware of those spots before the eyes, which

everyone can demonstrate for himself. Other odd visual phenomena, such as blurring and seeing things as if through a yellow fine-net curtain, may occur. The sensations in the head region are unlimited in their variety. The patient may feel on the scalp or inside the head all kinds of feelings of tightness, of fullness, trickling, echoing. The respiratory mechanism is almost always disturbed and the breathing becomes grouped. Everybody knows this because sighing is identified by the plain man with emotion of some sort. Shakespeare's lover "sighing like furnace" is an example. The subjects constantly feel as if they could not really fill the lungs.

Præcordial aches and pains and cardiac irregularity of the typical extrasystole type are common, and so is a heightening of systolic blood-pressure together with rapid and forcible action of the heart, which is distressingly apparent to the patient. It is interesting to observe that even in the strongest-minded people, who are quite satisfied that their heart is healthy, this symptom seems to produce feelings of anxiety. It has to be considered, however, if the heart behaviour does not produce anxiety, but is part of an anxious reaction. On the other hand, this illustrates a general principle that anxiety produces a physical symptom which then takes the front of the stage, and a subject who has, for example, developed asthma as a consequence of anxiety will evolve such fear of the asthma as to perpetuate it even after the original anxiety situation is over.

In the abdomen all types of indigestion may be seen. The commonest manifestations is inability to eat because of lack of appetite and a feeling of such fullness that the food cannot be crammed down. This, of course, is the known experience of many who get bad or disturbing news at the beginning of a meal. Endocrinological research is tending to suggest that gastric and duodenal ulceration may be consequent upon emotional disorders. The effect of distraction upon this difficulty in eating is quite remarkable, and repeatedly it may be observed that anxious subjects who not infrequently put up the notion that they are specifically unable to eat some definite article of diet because of anxiety associations will absentmindedly consume it with avidity if their attention is taken up by good company and conversation, to comment

with surprise afterwards on what has happened. Constant trouble is experienced with flatulence and abdominal noises of all types. This is probably due to a degree of tension, which leads to the swallowing of more air than is usual and also possibly to disturbances of distribution of tone in the musculature of the gut. Sometimes this is the presenting symptom, and it is intensified by small crises of worry appearing in an already tense background. The following case illustrates this :—

The patient was a very successful business man of 45, of a tense, eager, active, sensitive, and quick-witted type.

On one occasion he was faced with a very difficult interview with some business associates, where he had to take a stand on a matter of personal integrity which might result in the loss of a substantial part of his income. When the meeting began he was very much disturbed by the development of bubbling and gurgling noises coming from his abdomen which were plainly audible to everyone. Thereafter he was almost unable to carry out his business which involved a great many personal calls, because every time he went to see anyone the noises reappeared.

It is interesting to note that in the East belching at the end of a meal is considered a sign that the guest has enjoyed himself, and, indeed, this must be perfectly true because this cannot be done unless the individual is not under tension but quite at his ease.

As regards the rest of the alimentary tract the commonest disturbance, apart from flatulence, is spastic constipation, characterised by irregular bowel movement and the passing of small calibre stools, and the syndrome of mucous colitis, characterised by vague abdominal disorder and the presence of mucus in the motions.

This condition was the origin at one time of the widespread medical fashion of interminable douching and abdominal lavage, the effect of which was transitory as it was, of course, a purely symptomatic treatment. Considerations of the alimentary tract should not be left without mentioning that pruritus ani is a condition which may be demonstrably due to, or also demonstrably increased by, anxiety situations. Excessive secretion at all mucous surfaces is often a feature of anxiety states generally.

Frequency of micturition is an obvious and common symptom.

All these and many other multifarious reactions are the manifestations of fear resulting from an adaptive dilemma, and many have been, in fact, experimentally reproduced by workers with conditioned responses who have exposed animals to situations of discriminative overstrain (*vide supra*).

As far as the motility resources are concerned, the presenting symptoms are of a less clear-cut type and have received less attention except for the readily observable manifestation of tremor illustrated by the following case :—

The patient was a man of 32 who complained of tremor in the hands so severe that he was unable to manage table utensils and to manipulate such things as tea-cups. This patient was not only a manual craftsman of unusually high skill but he was carrying out his job without the appearance of the symptom ; this then narrowed the queries down very much, and it appeared that the tremor only manifested itself in social situations where he was afraid that he would be the object of too much attention and not acquit himself as well as he would have liked to do. The first emergence of the symptoms occurred when he went to have a meal with the family of a girl to whom he had recently got engaged, and from that point of departure the symptoms spread until the tremor began to show itself at his work, but only if he was observed ; and as this happened very infrequently it did not constitute a serious part of his problem.

Apart from this, however, careful observation shows that the postural substratum, against which all movement takes place, is in anxiety sufferers disturbed, leading to interference with smooth motor performance, and is typically manifested by jerkiness, unsteadiness, and uncertainty of movement and the expenditure of an inordinate amount of energy in carrying out motor tasks. Such people do everything too quickly, and are constantly dropping things and tripping. There is relative reduction in the capacity to change from one postural "set" to another. This is of far-reaching importance for person function. This may well be the background of the oddly prominent tendency of the anxious to stand frustration badly. It is evidently hard for the anxious personality to organise quickly a new attitude when an existing anticipatory one has to be abandoned. This is rather easily laid parallel with the anticipatory fixity of the anxious, who cannot await the event and its precise shape but must know in advance exactly what is to come, a desire that life will seldom gratify. It was this odd and rather little-noticed manifestation that gave rise to

the now classic phrase, "rattled fumbling," to describe certain features of neurotic inadequacy. It is the expression of rigidity in the postural substratum of activity.

In considering anxiety we must consequently remember to preserve as wide an angled view as possible, taking into account all the facts and remembering environment and endowment with equal care, and the closeness to the general framework of the normal.

Together with anxiety, fear must be considered. This reaction consists of an alerting of the organism for activity in response to a situation, appreciated by means of the sensory mechanism, which threatens the individual with loss of something which is of the highest value to him.

People's sense of values varies a good deal. Most of all, a man values his own life : he may, however, be so organised that even this primal basic value can be set aside. The New Testament words are, "Greater love hath no man than this that a man lay down his life for his friends," and "Perfect love casteth out fear," and it is fear that we are concerned with. It seems that here one is on the edge of a real profundity, and that this is a topic which has preoccupied our species for who knows how long and with what result of knowledge. The management of fear is a basic, social, and personal concern.

The list of potentially supremely valuable things is endless, and the threatened loss of them will always produce fear. The idea of failure, and loss of loved ones or honour or gold—all these can and will produce fear. Always, however, the loss is loss of something which is identified with the individual and without which he knows he would no longer be the same. So that all fear is ultimately the consequence of a threat to the integrity or wholeness of the individual, and it is interesting to note that the result of fear may, in fact, be a disintegration of the personality ; and it can be carried further, for fear, if prolonged, can effect a breakdown in the integrative action of the nervous system and uncover, for example, extra pyramidal mechanisms.

Fear, however, properly considered, is in the present. The issue is in the "now," and the individual may have the chance of actually and physically doing something about it. Furthermore, the chances are that he can get support of some kind from another individual overtly or implicitly. There is little

doubt that society is a binding together of people against fear. Nobody can fail to be impressed by the intimate relationship between men who face a common danger, seen in its highest form among bomber crews. The effect of fear on the integration of the individual inevitably varies with his capacity to do something about the fear-producing situation. Where action is possible we may see aggression and, as a rule, anger, for anger and fear are closely coupled. In situations where the individual is denied, for some reason, the opportunity of doing something about the fear, the effect is to produce some disintegration of the personality. This is the connecting link between fear and anxiety. These two are essentially the same, with the difference that anxiety is the expectation of a fear-producing situation which has not yet arisen and about which, consequently, nothing can be done except attempts to prevent the situation arising. Without going into detail, which is, of course, enormous, there are two factors to be noted which are practically useful in management. One is the assessment of the individual's anticipatory tendencies—tendencies to cross bridges before coming to them—and it should be noted that these anticipatory tendencies are founded on two things: first is the individual's ability to construct an imagined version of the dreaded situation, and this is a function of symbolisation; secondly, such imagined versions are always slightly inaccurate, and it is the inaccuracy, the difference between the imagined and the real, that is often responsible for the anxiety. The other is the individual's belief in his capacity to meet adequately an emergency if and when it arises: this is a function of the psychobiological integration of the individual, and depends inevitably on innate endowment and on the degree of support for the insecurities of childhood which he has had. It is obvious that the anticipatory tendency and the security reaction can play havoc with the life of the individual, since its first effect is to distort his judgment and push him into one wrong decision after another. This, interestingly enough, accounts for the economic failure of many people, who appear to be well endowed with intelligence and ability and who may never actually break down with an anxiety state.

CHAPTER XVI

OBSESSIVE-COMPULSIVE-RUMINATIVE TENSION STATES

MEYER gave this all-embracing heading to what generally is simply described as the obsessional neurotic reaction. We find in this group of reactions a compulsion to repeat, silently or aloud, words, phrases, and numbers, to carry out repetitive patterns of movement. These may occur alone or in company with insistent thinking about some fixed topic. All this occurs against a background of tension experienced by the subject as a feeling of "strung-upness," rendered more intense if he makes any attempt to break the chain of the ritual.

This condition is regarded as one of the most serious and crippling of the neuroses. It was, indeed, one of the early situations for which leucotomy was thought of as treatment. It is yet rooted in types of behaviour that have an inherent association with the general organisation of the nervous system, with the naïve behaviour of children, and with all forms of ritual and superstition.

As far as the organisation of the nervous system goes, it is a commonplace that repetitive activities occur very readily in terms of reflex action. Consequently a large percentage of children show a great and sometimes insistent desire to have things repeated over and over again. In the same way they object to alterations in the wording of stories which they are told, and they like to adhere to a routine. They also consistently show a tendency to derive satisfaction from the repetition of rhymes and phrases. This is shown also in another way by the behaviour of the mentally defective, where rocking, swaying, tapping, and scratching movements endlessly repeated are a commonplace.

Finally, ritual observations of all kinds connected with religion are for the purpose of placating the object of worship so that it may treat benevolently its worshippers, and the same applies to the vague forces propitiated by superstitious acts.

With this in mind, it should be obvious that obsessional

reactions may naturally show a wide range of severity from transitory phenomena of this type, closely allied to what is in the framework of the normal, right up to such severe preoccupation of this kind as to hem in the individual altogether.

It is usually possible to demonstrate that the personality make-up of individuals who break down in this way shows that same fear of adaptive capacity as exists in the anxiety sufferer, but manifested in a peculiarly rigid manner characterised by a tendency to arrange a system of protection against an imagined adaptive dilemma along ritual and mystical lines. Naturally this goes with a general tendency to leave nothing to chance, to be over-scrupulous, over-conscientious, meticulous in all the business of living, rigidly tidy, and with a low sense of compromise, a low ability to let matters take their course, and an incapacity to accept the chance of change. Sometimes the desire for certitude and finality prompts the endless questionings, "Who am I?" "Why is the earth round?" and so on.

For example, an individual of this type described how as a boy he had spent an almost sleepless night and could hardly get to school next day in time, so anxious was he to tell one of the masters that a certain event had taken place in village *A* and not village *B* as he had inadvertently stated the day before.

The appearance of obsessional features in childhood commonly assumes the form illustrated in the following case :—

The patient was a girl of 23 who complained of being haunted by pictures of her home as it might appear if a bomb were to be dropped on it. In order to avert the possibility of a bomb dropping on her home, which could have happened, she was compelled to visualise this scene as completely as possible, and when a degree of completion had been reached then she was able to drop it with some confidence that she had in this way averted the possibility of the event actually occurring.

This girl was a capable and intelligent student who had a good school record, but on inquiring it emerged that whenever she came to examination time in her school years it was essential for her to tie up her school books in a certain way and to walk very carefully to school, following a certain route and crossing the road at a certain point. The idea was that if she failed to do these things then she would not be successful in the examinations. Whenever the examinations were over this behaviour stopped.

Occasionally reactions of this type turn out to be lifelong, fluctuating in intensity according to the general situation in which the individual finds himself.

The patient was a man of 70 who had been troubled with a need to follow rituals at school and at the university. He had had religious scruples, and it was necessary for him to go over and over in his mind certain points of theological doctrine. He was unable to go to church because he did not feel he could do so with a completely undivided mind; and in middle life he developed the idea that his vigilance might one day be off its guard, and he, as a result, might swallow a mouthful of scalding tea, burn his throat, and die of suffocation.

He described this thought as "something getting on his mind," but evidently with almost superhuman efforts he was able to dismiss it from consciousness. He was clear, however, that if he became fatigued or was sleepless as a result of over-activity the obsessional ideas became more compelling.

In this case we see the presence of clear-cut obsessional features lasting pretty well throughout a lifetime without really getting progressively worse, except where the total energy of adaptation was from time to time reduced. Although clear cut, the reaction had not been altogether incompatible with a moderately high degree of occupational performance. The same features are illustrated in the following case :—

The patient, a man of 65, rather a rigid, meticulous, precise individual, had for several years been under considerable strain as a result of illness in his family. In consequence of this he developed obsessional features, but he did not do so until after the strain had passed its climax, when he got the idea that he might, in taking his hands out of his pockets, pull out a document or an important letter and lose it or enclose something important in a book which might be taken back to the lending library and the document thus be lost. The severity of this ebbed and flowed according as he was distracted or fatigued or not.

Most people know, although it is seldom discussed, that they have a technique for expelling from their minds unpleasant ideas or a memory which occasionally comes back, usually a memory of something one has done that one would rather not have done. Such situations occasionally, when severe, are recurrent, as in the case of a patient who made repeated brushing-away movements with his hand, saying, "Very slight, very slight." This was because some years before he had been infected with venereal disease as a result of behaviour

very much against his general tenor of life. It had been treated promptly, however, so that the infection had been " very slight " in reality.

The general tendency of these conditions is to ease up if the situation of the individual's life can be eased up, so much are they evidently a part of the general framework of the normal just as mild anxiety is the lot of almost everyone.

An example is afforded by a schoolboy of 16 who was unfortunate enough to be seriously bowed down with physical ill-health as a result of which his school work became rather a burden. Before very long he had got into a network of ritual obsession and compulsion that very nearly wrecked the whole economy of his home. He had to do everything in a certain way at a certain time. His home work had to be done in a certain position, his clothes had to be laid out according to a design, and certain ritual phrases had to be used. Yet, all this was reduced practically to vanishing point when his physical health improved and he was provided with a good tutor to help with his home work.

The general tendency for these symptoms to be improved when the life situation affords less aggressive challenge to the individual's powers of adaptation is a constant feature, and is shown again by the following case :—

The patient was a talented university graduate who broke down, showing symptoms of depression while he was engaged in research. The complaint was that research presented a dilemma situation in regard to the necessity for scrutinising the literature. This in turn led to discussion of the need for thoroughness on the part of the patient, and it finally emerged that he was more or less constantly impelled to test his memory by mentally asking random questions. He had evolved the system of random sampling of knowledge, and if the random questions could be answered then the tension and fear of inadequacy abated somewhat. This went right back to the very earliest days at school. On going to a public school from a private school, this patient experienced considerable fear of the new situation, and the fear was formulated by him in the terms that he must do as well as possible in order to preserve a feeling of safety. It is noteworthy that this did not involve a mere wish to keep in with the school staff or even with the other boys, it was simply a desire to preserve at all costs the adaptive mastery over the environment, a mastery which he doubted his ability to maintain. As a consequence of this he did his school work with almost feverish energy, spending long hours at his preparation, and going to bed to engage in an internal *viva voce* examination consisting of random questions in regard to the work he had done. If a certain number of these questions were answered then he assumed that he knew it all, and

it was necessary for him to know practically everything by heart. If by chance he was unable to answer one of the questions, he could have no rest until it was answered or until some intercurrent event or sheer exhaustion brought the process to an end.

As a result of all this, the boy went through school as the oldest member of the top division of his form, and the situation was in a way recapitulated when he unfortunately landed in research, to which his intellect but not his make-up entitled him.

After a period of several months of great discomfort and absence from work the symptoms began to abate and finally reached vanishing point, when he was able to take up another job, this time well inside his scope, but in which he was contented.

Clinical experience shows that in this group there is a large number of cases presenting sometimes quite acute symptoms which, nevertheless, can get along very well if the demands are graded to the capacity and this is accepted by the patient. On the other hand, this repetitive protective tendency may run away with the patient, and a more or less irreversible, irrecoverable, and rapidly deteriorating situation develops, such as the following :—

The patient was a single man of 35, and he presented a distressing and startling picture. His dress and person were neglected, his hands were stained all over with cigarette smoke, his movements were constant, restless, jerky, pacing up and down, picking objects up, laying them down, picking them up again, laying them down again, taking a pace this way, retracing it, and repeating this process endlessly over and over again. When spoken to about this behaviour he apologetically and evasively said, "I have just got into a lot of bad habits."

The history of the case was as simple as it was striking. After a normal childhood and boyhood and an uneventful school life this patient took without any difficulty a degree in science and then proceeded to take a medical degree. All went well until he started to do hospital work and had to attend surgical operations. This produced a profound upset in his mind. He became possessed with fear that he could never actually do such work himself and that he could not even go the length of watching operations. He tried to protect himself against these worrying thoughts by repeating things to himself while he was in the operating theatre. It is interesting to note that this technique of avoidance was described by Kipling in "Kim," where the boy avoided being hypnotised by repeating the multiplication table to himself. This patient repeated to himself the number of his own house because his home was a secure idea, but then shortly afterwards he had to use these numbers for counting steps he took and the number of words in sentences and phrases. He found that it was necessary to get objects and so

forth to add up to the correct number. It was like a rapidly progressive disease which soon invaded the whole fabric of his life and hemmed him in on every side so that he could do nothing but attend to the ritual and protective countings which had been so simply embarked on. All attempts at control or amelioration were quite unavailing.

The development of serious manifestations of this kind from simple beginnings is by no means uncommon.

The patient was an unmarried woman of 47 who had been brought up as a somewhat spoiled youngest member of a fairly large and well-to-do family. Apart from self-centredness and such manifestations of spoiledness, she had shown no neurotic tendencies, but had been allowed by her mother always to stay in bed at the time of a menstrual period because she complained of the pain, and this developed into a situation where she would stay in bed for a week instead of two days. Then she would stay in bed when there was no menstrual period. Then came a tendency not to take off all her clothes when going to bed, and then appeared the necessity for folding the clothes in a certain way. Next appeared the need for always saying something when entering or leaving a room. It soon became a situation where everything was dictated by the need for adhering to ritual. The patient evasively said, "I have just got into a lot of rather silly habits," and this is the usual excusing formulation; but she added that they were all carried out in order to avoid something unpleasant happening, she did not know what, but only felt secure if she was protected by her magic acts. This condition had gone on for more than twenty years with fluctuations conditioned by environmental changes involving distraction, but was never substantially modified by control or reorganisation of any kind.

As a last consideration in the scrutiny of these conditions it is possibly useful to bear in mind that all activities rest first on the internal milieu, on which in turn rests the postural substratum, and only against these two can effective movement take place. Adaptivity, therefore, depends on, amongst other factors, the ability of the individual to change the set of tensions, which we can call the postural substratum. The changing of these postural tensions, in order to allow the individual to pass smoothly from one activity to another with the versatility and elasticity characteristic of the constantly changing adaptive demands of life, is an important item of make-up and obviously involves the whole person and every level of the hierarchy of personality organisation. The obsessional states and their behaviour patterns rest on postural tensional substrata, and

this might be an explanation of the reason for the rather striking presence of very evident tension in a situation which at first sight is merely repetitive. This is to some extent supported when we consider that pure repetitiveness is often seen without any accompaniment of tension. The so-called arithmomania often appears merely as a sort of cogitative accompaniment, and it may even be agreeable. This can be found in literature, and one of Surtees' characters, quite without tension, habitually prefaced all his thinking by doing a little mental arithmetic while he thought the thing over.

" 'Fine day, Mr Hall,' Farmer Barleymow would say as he stumped along to the market.

" 'Sivin and four's elivin, and eighteen is twenty-nine. Yes, sir, it is a fine day,' the banker would reply."

CHAPTER XVII

HYPOCHONDRIA

THIS condition consists simply of exaggerated concern for the physical health, either taking the form of general preoccupation in the matter or of specific concern in regard to some particular organ or function. It is yet another example of the general principle that merergasic reactions are situations where the individual's adaptive capacity is for him in some doubt, and this leads to disturbances of person function with some substitution of complaining of some kind for actually getting on with the adaptive responsibilities. As far as the anxiety sufferer is concerned, straightforward fear or its physical manifestations are the answer to the problem; and the obsessional protective ritual is another way of reacting to difficulties, a way inevitably more taxing than the difficulties themselves.

In hypochondria we see an individual facing the adaptive problems of living, with an alibi always at hand in the form of "my health." Everybody knows that it is an everyday matter to encounter people who talk about "my health." This tends to be accepted rather without question by the plain man because he knows that, as has been said before, health is the only real wealth and that if the health is impaired then it is hard to compensate for it. Our everyday speech is packed with references to health. The very "How do you do?" of persons who meet one another and the "Good health" as one raises a glass are examples of this. The plain man knows also that amongst people he meets he encounters a number of individuals whom he may describe as valetudinarians. This word deserves attention, for it derives from the Latin *valere*, to be strong, and from the Sanskrit *bala*, strength, and from the root *WAR*, to protect.

These are only a few points that indicate the extent to which, in the thinking of the ordinary person, the notion of health and physical strength and capacity are of vital importance. We therefore see in people who are faced with adaptive difficulties a tendency to get out of the fix by utilising

a health handicap as a reason for the avoidance. The association between this and anxiety is, in fact, quite close, and clinical observation suggests that in hypochondria we are dealing with a situation where organ and system dysfunction, emotionally conditioned, appears without the accompaniment of that variety of emotional disturbance which we see typically accompanying the physical symptoms in anxiety. The hypochondriacal sufferer complains of physical symptoms, but with a rather characteristic querulousness and a tenacity different in tone from the fearful tense reaction of the anxiety sufferer.

Hypochondria seems to be a deep-seated personality disorder, and it can only be dealt with as such. It seems, clinically, to be bound up with a special orientation to the actual fabric and form of the body. Probably the only hope of modification lies along the lines of establishing some insight in the patient as a result of a careful survey of the life-history. This can be a lifetime disorder, and our query and our concern should be not with an individual as a hypochondriacal complainer, but how he is so and how he got to be so. When this type of scrutiny is applied to the condition, it is soon very evident that it rests upon family background and the atmosphere in the home where concern with health has been a constant and insistent feature, and where there is a tendency to build the life around the system of physical capabilities.

Such a situation may arise as a result of communication or as a result of accidental circumstances, suggesting that there is a feature in the individual, some special tendency to take health news by the hypochondriacal end. This is illustrated by the following case :—

The patient was an unmarried girl of 19 who was accompanied to the doctor's office by her mother. The question was that she was to be called up for National Service, and appeal was being made against this on account of the girl's inability to eat anything but a very special diet. This diet consisted of some fish, milk puddings, and specially dried bread which the mother prepared. These were the main items of food intake. Fruit and milk were allowed, but only certain fruits and only a certain quantity of milk. The motions were examined with great care, and according to their appearance the diet was regulated and altered within certain limits.

This state of affairs began when the girl went to a secondary school, where she found the work difficult and complained of

indigestion and lack of appetite. Her mother immediately fastened on this and converted the girl into a hypochondriacal complainer whose interest was centred on her stomach and bowels. The girl declared that if she ate anything other than her prescribed diet she suffered great distension and abdominal discomfort. She had hardly ever been at school on account of her mother's determination to keep her at home and in bed, and since leaving school she had never worked and had very seldom been out of the house. All this she had accepted with perfect equanimity.

A similar case is exemplified as follows :—

A patient, an unmarried woman of 33, had a frustrated love affair in the office where she worked with a man who was already married. This made her feel unhappy and irritable and produced a good deal of conflict in her mind. Shortly after this upset she declared that a catarrhal condition had made its appearance in her nose, from her bowel, and in a vaginal discharge. This almost at once became the central object of her life's preoccupations, and she went from one physician to another and from one unqualified practitioner to another. She went through an uncountable gamut of dietetic programmes, nature cures, and abdominal lavage. There was grumbling complaint bursting out into irritability if any attempt was made to prevent her from going on with her programme. A striking feature was the absence of anxiety and the presence instead of a querulous smugness.

The hypochondriacal process may also be started by actual physical disorder, as is illustrated by the case of a healthy man who lived in the tropics where he got dysentery. The dysentery made him very nervous in case he would be forced to have a precipitate bowel movement at some inconvenient time, and, indeed, this had occurred to him on one occasion when it was socially very awkward. This event made an indelible impression on his mind, and from that time he became a progressively deteriorating querulous complainer about the state of his bowels and kept a constant eye on their condition, making this the central point of his life. The condition showed a considerable fluctuation and at times of strain was quite markedly worse.

In describing these three reactions the attitude of the patient was that the life problems were made additionally difficult by the handicap of poor health.

All these three subjects had in common an interesting attitude of mind to this in the respect that there was in all three a degree of special interest in the dress and physical appearance, suggesting that hypochondriasis may rest upon a special attitude to the physical assets, but this is not

by any means always the case, as the following example shows :

The patient was a man of 35 who complained of general debility and certain preoccupation with his heart, which caused him constantly to feel his pulse and also at times to be worried as to his heart's action. There was no question in his mind that his heart would fail and he would suddenly die, as would have been typical of an anxiety sufferer.

The condition began after he had been swimming. He ran home from the swimming pool as was his custom, for he had always enjoyed excellent health, but suddenly he began to feel faint. The feeling passed off almost at once, but he remembered about it, and one day a few months later, when in church he stood up to sing, the blood seemed to rush to his head. He went out of church, had a drink of water, and went home in no particular concern. A little later on he developed a feeling of faintness while in the house of his fiancé. So far the condition had been manageable and had not caused a fundamental degree of concern. About this time, however, two things occurred : one was that he got married and the other that the pressure of work in his office very much increased. It turned out that his marriage presented a very serious problem on account of the personality of his wife, who afterwards turned out to be psychotic. He was, therefore, in a situation of very considerable difficulty, and one night in the movies began to feel as if he were floating, a feeling which lasted until he got home and continued all the next day. He struggled back to work, but a few weeks afterwards felt as if the inside of his head had collapsed, like a crushed egg shell. When he was walking along the street the effect of this was to make him feel flat and tired and to complain in a dull but interested manner. This man's earlier history showed no evidence whatever of difficulty in adapting to everything that had come his way, nor was there any evidence of any particular preoccupation with his physical status. The admixture of anxiety is evident, and may be significant in regard to the last point.

Hypochondriacal over-concern seems to be a condition best described as being evoked by circumstances rather than more simply reactive to circumstance.

The rôle of boredom in the production of neurasthenia will be mentioned later. It may, however, also produce hypochondriacal over-concern, as the following case shows :—

The patient was an unmarried woman of 54 who complained of pins and needles all over both limbs and trunk from the waist down, worse in the right leg, some pain in the back, and extreme stiffness in the right leg if she attempted to walk any distance. This was accompanied by pains in the back of the neck and a feeling

of pressure inside the head. All this was subject to the typical irritable, querulous complaining without any reaction that could be called depressive. It had made its appearance in a woman, who in girlhood and early womanhood had been of a lively, outgoing disposition, a leader of social activities in the community in which she lived, full of energy and enjoying excellent health. During the 1914-18 war she was compelled to do a good deal of work to which she strongly objected, not only because it was distasteful but because it reduced her activities in other directions. She never seemed to be able to recapture the kind of life that she had lived before the 1914-18 war. Everything seemed different and less to her liking. She began to sit at home a good deal, and then gradually developed one physical complaint after another. There was considerable preoccupation with the bowels, sometimes they were too loose, sometimes they were too confined, and she was constantly juggling with diet and aperients. She developed severe pain at the menstrual periods, and this function became irregular—to disappear for long spells and then to return. At last the patient was left at home to look after her aged parents, and when they died she gave herself over entirely to concentrating upon her various physical complaints, which can only be described as having become a hobby.

We see, therefore, in this elaborate group of preoccupation with physical capacity and function the expression of adaptive difficulty. It is a condition highly resistant to treatment, and, indeed, a celebrated physician (Dr Walter Alvarez) has declared of hypochondriacs that "we should try to be kind and patient with them, but I think we should try to get them out of the office as quickly as possible because the time they take up is spent to no good purpose." The matter, however, cannot be left there.

As an example of the ominous way in which this condition may rapidly make its appearance and may form a life pattern, never subsequently showing any more than the slightest temporary modification, we may quote the following case:—

The patient was a boy of 19 who had for a considerable time been finding his work at school rather a strain. His day began at 8 o'clock in the morning when he left home. He returned home about 5 in the afternoon, and then was occupied with preparation for the next day, which kept him working until between 10 and 11 at night.

The culmination of this long period of effort took the form of two groups of rather testing examinations, in neither of which he did very well.

At the end of this period he was found by his mother, crying, and when asked why, he said that it was because he was worrying

over his tendency to have nose-bleedings, a symptom he had had on and off most of his life.

Within a matter of days he developed a group of symptoms consisting of flitting pains in every part of the body, mucus in the throat provoking constant swallowing, and preoccupation with an increase in the thickness of his neck which he said was palpable, and the appearance, he said, of veins on the back of his hands.

He stated that he was possessed by the idea there was something wrong with his throat, and that he might have what he called sclerosis of the veins, although he did not know precisely what this meant.

The examination revealed nothing except the presence of some mucus in the back of his throat.

The background of this breakdown was a home with a good deal of tension in it and considerable preoccupation with health and the necessity for maintaining it by various performances coming under the general heading of hygiene. This included such things as concern with diet, with ventilation, and with rest.

The patient was a boy for whom his parents were extremely ambitious and who had consequently been subjected to the sort of general attention and grooming to which such children are generally exposed.

At an interview the whole sequence of events was carefully gone over and the mechanism explained. The patient declared that he not only understood but agreed with the formulation so arrived at, yet, when he left as he was shaking hands with the physician, said, as if the interview had never occurred, "What about these veins on the back of my hand?" pointing to the back of his hand which was, of course, perfectly normal in appearance.

This illustrates the extent to which hypochondrical pre-occupations can assume intensity and fixity, which allows us to describe them as being very nearly delusional and to take a correspondingly serious view of them.

There is an understandable tendency to make distinction between hypochondria *cum materia* and hypochondria *sine materia*. Hypochondriacal preoccupation where there is some actual demonstrable physical disease is, as a rule, simply regarded as over-concern. It is not unimportant, however, to scrutinise such situations rather closely, because there is always a strong human tendency to regard the other fellow's difficulties of this kind as trifling and merely reactions to emotional disturbances. Hypochondriacal alliance to real disease, however, must also inevitably be considered in terms of the individual's general adaptive powers in other directions and of the factors in his environment. It was pointed out earlier

that fallen arches are no particular problem for a taxi-driver, but a very serious matter, indeed, for a policeman. It is fatally easy for the observer to say that the physically ill person is making too much of it. It is difficult to know the whole story.

There is, however, as a rule observable discrepancy between the complaint of the true hypochondriac and the individual who is reacting somewhat hypochondriacally to actual physical handicap. This is natural, because the sequence of events is completely different in the two cases. We consequently see in the hypochondriac *cum materia*, instead of the irritability and querulousness of the hypochondriac *sine materia*, a degree of tension and even depression, which clinically makes quite a sharp differentiation. The depressive element may also be the leading feature, and should be treated seriously. Naturally, the course and management of the two types are quite different.

CHAPTER XVIII

NEURASTHENIA

THIS condition was at one time supposed to be due to some exhaustion of the nervous resources of the individual, for the presenting symptom and complaint is fatigue. The clinicians of an earlier day elaborated a very large number of topics of complaint consisting largely of symptoms which are now recognised mainly as belonging rather in the territory of the anxiety states. It is probably useful to keep this in mind because, simply stated, the position is that anxiety states are conditions where the individual is conscious of anxiety and worry and neurasthenia is a state where the individual is conscious of fatigue but not of fear or apprehension. We do see, however, a good many of the physical discomforts of anxiety in the neurasthenic subject, but if we steadfastly insist, as we should do, in keeping attention on the complaint made by the patient we find that the neurasthenic sufferer tells the doctor, before all else, that he is tired.

In order to get as near an understanding of tiredness or fatigue as our very limited knowledge will allow, we may usefully take into account two conditions. One is that the plain man knows very well that there is all the world of difference between being tired "with" doing something and tired "of" doing something. This probably is as old as the days in the nursery when children were told how odd and noteworthy it was that they could be hungry for cake when they were not hungry for bread. The other is the long-recognised principle of integration of the nervous system, which is that, in view of the disproportion between the size of the sensory inflow and the motor outflow, a situation where sensory claims on the motor pathways have to be pared down, the sensory pathways consequently show fatigue more readily than the motor mechanism, which can and does serve them all.

Neurophysiology has long since established this as a fact, but it squares with what the plain man has always said in his own words and what his words mean when he says, tired "of" rather than tired "with," showing that he knows perfectly

well that the same motor mechanism will show renewed activity at the behest of a fresh sensory stimulus when a previous stimulus was beginning to produce but a flagging response. "Changes," he says, "are lightsome." He goes a little further in Scotland and says, "and fools are fond of them," indicating an inherent belief that rapid and easy boredom is an indication of inferior personality organisation—not unlikely. Having arranged a point of view for fatigue, taking these factors at any rate into account, we can observe that they tally with clinical observation.

The patient was a man of 40, the representative of an engineering concern, who had a great deal of travelling to do on behalf of his employers. He had pursued his occupation for about fifteen years, when he rather rapidly developed a condition of almost continuous tiredness and inability for effort. This was accompanied by headaches, lack of appetite, and feeling of oppression in his chest. Physical examination had proved negative, his history was quite uneventful, personal make-up was satisfactory, all his previous adaptations had been easily accomplished, his marriage was happy and successful, and his business career had been the same. It was rapidly established in eliciting the history that his symptoms had developed after he had been put on to a new programme which involved a more or less unbroken circular tour of duty which took up practically his whole week and allowed him relatively little time at home and was rigid and unmodifiable. There was no question that he was being overworked. It was merely that there was in his life an element of monotonousness which had not been present before.

This factor may operate in innumerable ways, as the following case shows :—

The patient was a married woman of 45 who complained of fatigue, headache, dizziness, and lack of appetite. Rather interestingly she explained the whole condition during the first few sentences that she spoke, for she said that she could not understand how she was so tired because she had not more to do than she did but considerably less. On explaining this she described that her husband was away from home in the evening on account of his occupation. They had a daughter who had married, but who had been unable to find a home because of the housing difficulties then existing. This was their only child, and the home was a happy one with great mutual affection. The daughter's marriage had been the subject of satisfaction to her parents who liked their son-in-law, but the mother had developed her life very largely round the daughter's programme, saw her off in the morning to her work, waited for her to come home in the evening, went to entertainments

with her, and after the girl got married, her husband being in the armed forces, she took a great delight in helping to look after the daughter's baby. All this was taken away when the daughter got a house of her own and then, although it was near at hand and she saw the girl every day, the situation was not the same. There now was in her life a monotonousness which had not been there before, and she soon became fatigued.

In this condition, then, we see the organisation of the personality suffering particularly in regard to the output of energy ; paradoxically not on account of any real reduction in the available energy, rather on account of the absence of adequate stimulation, and this receives confirmation, as has been said, from neurophysiology.

On the other hand, it must be recognised that there is a group of people in whom in some way, as yet not understood, the tissue resources seem to require a specially long recovery period after the expenditure of energy. Such individuals show throughout their lifetime periods of unusually long convalescence after infections and the need for unusually long periods of rest after activity. These individuals require a long time in bed. They are usually more comfortable lying rather than sitting or standing. They like to get their feet up, and it has to be accepted and recognised that monotonousness and lack of punctuation on the one hand and a definite tendency towards fatigability on the other very commonly go together. A modifying factor is that where we deal with an inherent fatigability it is materially modified by an active life, with good resting points of satisfaction and multiplicity of stimulus. Doubtless this is a point where the experiment of nature or subject organisation—that is to say, organisation of the subject by himself with recognition of the assets and liabilities—can lead to a philosophy and a plan of living which will afford more satisfaction or less satisfaction according as it is successful or not.

CHAPTER XIX

HYSTERIA

"I am inclined to refer to hysteria all the mental and physical disorders which are produced by the effect of an emotion or idea which may work unconsciously to the patient so that what the observers call simulation is usually beyond control and only accessible in hypnosis."—MEYER.

THIS reaction, certainly the most dramatic of all the merergasic failures of adaptation, consists fundamentally of avoidance, assuming the form singly or in combination, of blocking or irritability of the sensory inflow, of inhibition or irritation of motor function, and of great disturbances in that system of total collaboration of all the organism's potentialities, which can be called degrees of consciousness. These are the general principles. Meyer called these disorders "dissociative, dysmnesic, histrionic reactions." On the sensory side they consist of disturbances or loss of any or of all the functions of the senses, partial or complete. We therefore see blindness, deafness, loss of smell or taste, loss of sensation in the skin, and, on the other hand, positive sensory phenomena such as pains and paræsthesiæ. Disturbances of the sense of position and movement are less easy to demonstrate, and this is in itself an interesting point because lay people are unaware of the existence of this sense and consequently cannot conjure up the notion of its loss. As an extension of this, the visual loss, hearing loss, and other sensory disturbances do not correspond to the inevitable lines laid down by the anatomy and physiology of the nervous system, but correspond to the individual's notions regardless of anatomy and physiology. It should be noted, however, that apart from hysteria, something of this kind may occur. Investigation in regard to sensations supplied by the phantom limb show that these also may not correspond to proper segmental arrangement.

On the motor side also we see, on the one hand, tics, spasms, and convulsive movements of all types and, on the other, paralyses of all types, total or partial, organised also regardless of the integration of muscle groups, but arranged according to the views of the patient as to what constitutes

paralysis, and naturally often consisting of vigorous spasm but generally all serving immobility in some way.

In regard to general behaviour the hysterical manifestations assume the form of memory and orientation disturbances, leading to the so-called hysterical amnesia with forgetfulness of some situation rather sharply delimited, and also the so-called fugue with its characteristic wandering off by the subject in the so-called loss of memory episode not infrequently reported in the press. Together with these there exist an enormous variety of dream-like and trance-like states, during which the contact with the environment is reduced or altered so as to correspond with the material of the trance or dream.

Account must also be taken of the types of behaviour typically indicated by the plain man when he speaks of hysterical behaviour. He means by this violent outbursts of emotion taking the form of weeping and laughing, and violent excitement, and even behaviour resembling convulsion.

Naturally, also, there exist a number of minor disturbances involving structures of smooth muscle, and this leads to disturbance of appetite, sometimes with its total abolition and the development of the classical anorexia nervosa with its dramatic emaciation and equally dramatic complacency on the part of the subject. Vomiting is often an early symptom in the development of this condition. Similar disturbances are responsible in regard to sexuality for the appearance rather typically of frigidity and dyspareunia.

To some extent the whole modern development of theorising about neurotic reactions began with the work of Charcot on hysteria. Then, and really ever since, the question of reality or simulation has constantly remained an open one. Meyer, however, liberally not only used the word "histrionic" but also in the definition above specifically says "*usually beyond control*," and we have to consider what we mean by this word, for it is a useful guide to understanding the nature of the condition. The dissociative element is not confined to hysteria, for since consciousness is a matter of more or less, and since the collaboration of different levels of organisation is in a state of constant flux, now merged, now separated, delegating at certain times and taking over at certain other times, it is not difficult to appreciate how this looseness may occasionally become intensified and lead to a type of

independence and separatism, which is really the basis of hysterical symptoms. It was demonstrated in Charcot's day, and still is true, that somehow or other hysteria never goes altogether too far, and the individual who has lost all sensation in his hand neither burns nor wounds the hand, the hysterically blind do not come to grief and do not hurt themselves by walking into solid objects.

It is worth noting that minor degrees of dissociation are constantly to be seen, so to say, in the normal where one system of postural tensions has not been given up, maybe as a result of interference, and another activity started. The second activity may be blocked and jammed by the persistence of the first set of positions or attitude. The capacity to pass from one attitude to another is a measure of adaptability constantly poor in different ways in the different merengasic reactions, and the persistence of no longer relevant attitudes of a past situation will naturally lead to dissociation or fragmentation of person function. It was this tendency to "hark back" that led Meyer to use the word "reminiscent" to describe hysterical behaviour. In yet another way the hysteric is reminiscent in that he is inclined rather markedly to remain under the influence of some emotional shock or idea relating to a past time and only operating because of hysterical hypermnesia.

It is, in fact, impossible to rid one's mind of the idea that there is definite gain for the hysterical subject in his symptoms. They solve his problem whatever it may be. They place him in the limelight and make him the object of interest and solicitude, and they seldom impose any real hardship on him. The classical hysterical headache, traditionally described as being like a nail driven into the head, the so-called clavus hystericus, does not at all produce the reactions of trigeminal neuralgia ; and the disturbances of swallowing and breathing due to the throat sensations of a foreign body in the passage, the globus hystericus, do not produce, even although their nature would suggest that they might, distress in the way the discomfort of the anxious sufferer and the tension of the obsessional do. In respect of other symptoms, clearly not unpleasant in themselves, the patient has an attitude of complacency which is very understandable if one considers what is happening. It was this that led to the formulation of the

belle indifférence, first described by the French clinicians. An example of this is afforded by a hysterical girl who, in describing with the usual relish her symptoms in the past, said : " And then there was the time when I was blind for a year—that was a lovely time, I was so very happy then."

The association between the manifestations of hysteria, founded as they are on a certain trend towards disintegration and suggestibility, are naturally bracketed with the different phenomenon of hypnosis which operates along similar lines. The following case illustrates the dynamic nature of hysteria, its relationship with hypnosis, and the constant query as to the uniform reality and uncontrollableness of hysterical reactions. It should be remembered that we cannot, in fact, draw a hard-and-fast line between simulation and non-simulation, although arguments about hysteria in respect of this would suggest that one could do so. It is better to take up the point of view that hysterical manifestations may be " more or less " out of control or, as Meyer says, " usually beyond control."

The patient was a girl of 18 who had been brought up in a home for orphans, where she was trained for domestic work and finally placed. There came about a serious disagreement with her employer, who declared that she would have to dismiss the girl. This meant that she would have nowhere to go, and she immediately developed a generalised paralysis of all four limbs and some of the trunk muscles, so that she was unable either to stand, walk about, or to sit up, but only able to lie. The neck muscles were not affected, neither were the shoulder muscles, because these were not important for the patient's purposes. She was admitted to hospital as an emergency, and was seen in the emergency department by a psychiatrist, who at once put her in a hypnosis. She readily went into a deep hypnosis, and while in this state was caused to rise out of bed and walk around the room, climb up on chairs, and carry out a full range of movements. The suggestion was made to her that when she awoke she would be able to move about freely, and that the paralysis would have gone. She was put back to bed, was slowly awakened, and on wakening was completely paralysed as she had been before hypnosis.

Another psychiatrist who had been present then also put the patient in a hypnosis without difficulty, and made vigorous attempts to deepen it as much as possible ; once more the girl was caused to carry out full movements ; once more she was put back to bed, and once more on wakening she was completely paralysed. She then looked at her audience, which was by this time considerable,

and with a charming smile said, "I guess you will have to send me to hospital after all, doctor." She was accordingly admitted to hospital where, in the course of a week, she gradually regained her powers of movement and at the same time had developed a plan for what she was going to do.

Naturally physical disturbances may affect more or less of the musculature and may assume a much more circumscribed form than is described above, as is shown by the following case :—

The patient was a labourer of 45. He was working in a trench where large section pipes were to be laid. The side of the trench collapsed, and he was pinned down by the earth. In his fall his right arm slipped underneath the pipe, and he was thus trapped for some time before the earth could be dug away. On release he was immediately taken to hospital, and X-ray showed that no damage had been done to bony structures ; there was, however, some sprain of ligaments and strain of the muscles. His arm could not, however, be moved, and remained immovable in spite of attempts to get him to carry out movements. He was finally seen by a psychiatrist. The arm was hanging loosely by his side, bent at the elbow to an angle a little greater than a right angle, and in this position it was maintained by a violent contraction of the flexor muscles to such an extent that even extreme force was unavailing in causing any movement. When the patient was asked to try and straighten his arm he declared that he was doing his best to straighten it, and it was observed that attempts to straighten his arm resulted in increased tension of the flexors and complete relaxation of the extensors. He was carrying out all sorts of exercises to try to straighten his arm, and declared that it was of vital importance that he should do so because he had been told that all he would be able to do was light work, and, as he said, he could not support his family on the wages granted by light work. The question of compensation was, of course, involved.

We see in this case a situation illustrating the complexity of these situations. There was no obvious gain in the condition. Compensation could never adequately deal with the occupational loss, and it would have seemed that the patient had everything to gain and nothing to lose by giving up the hysterical contracture. It was only when further discussion of the condition was engaged in that it emerged that at the back of this man's mind there was the notion that he required some time for the arm to be rested, for it was his philosophy that an injured arm, and the arm had definitely been sprained, was better to be rested than to be exercised. Certainly, what

had first appeared to be a situation paradoxically lacking in gain actually, in the patient's view, had a certain method in it.

The isolated symptoms of hysteria are naturally so numerous as to be rather uncountable, comprising as they do every type of sensory and motor upset that can be conceived by the patient. A better view of the nature of this condition is got by considering the generalised disturbance of behaviour and contact coming under the headings of dysmnesic conditions, where the peculiar restrictions of consciousness occur in the form of fugue, amnesic episodes, and trance-like or somnambulistic behaviour.

The following case affords an example of the fugue in the classical tradition :—

The patient was a married man of 40 who had lived a rough and wandering life in Australia. He married an English girl, who persuaded him against his will to come to England and settle in a quiet rural area. He reluctantly did this, and was about to conclude the purchase of a small business there. On the way to the bank to make the final transactions he felt queer and visited the doctor, who could find nothing wrong with him. When he left the doctor's house he disappeared, and no trace could be found of him. While the search was going on, the patient was talking to a police constable in Scotland, where he had arrived. The constable seeing a man, irresolutely wandering on a bridge, went up to him, and the man (the patient) asked where he was. The constable said he was in _____. "It can't be _____," replied the man, "for I live there and this certainly isn't _____. " To this the constable replied that he also lived there and that there was no doubt about it. He added that it was _____, Scotland, to which the patient replied that he was talking about _____, Australia.

Shortly afterwards, when he had been admitted to hospital, it was found that there was a memory loss involving a long period of his past life extending to the time before he married. Otherwise he was clear and showed no symptoms of any kind. The beginning of the memory loss was vague and indeterminate. Memory was sharp and clear for boyhood and youth, but gradually became blurred as the date advanced. His last memory was a vague one of being pressed for time to catch a boat in Australia, and the next thing he remembered was his conversation with the policeman.

It was not possible to induce hypnosis in this man, and memories could not be recovered in this way. Nor were they recovered as a result of interrogation by police officers. He was very contented in hospital, and the programme was followed of building in memories as part of everyday routine. He did not know

his name or his address in —— or his occupation. He was encouraged to talk on general subjects at repeated interviews, and gradually his memory returned in a series of episodes such as this. While having tea, he said, "This is lovely cream. Mabel would like this," and then exclaimed, "That's my wife's name." He then remembered the details of his marriage.

The subsequent history of this case was that the memory returned, together with a general readjustment. It was discovered at last that the dynamics had been a wave of despair at settling in a small village, which was for him virtual imprisonment. This worried him, and he began to feel unpleasant sensations in his head. When the doctor failed to offer any avenue of escape, he went straight to the railway station and asked for a ticket to ——. Then came the symbolic journey of escape. It almost seemed as if it was a shutting-off of the intolerable situation until such time as he had, one might almost say, got used to the idea.

This aspect of fugue may be even more clear cut.

The patient was a man of 60 who went missing from his home and was found wandering about some miles away. He complained of headache but no other symptoms. Back in his own home he was in proper contact with the time, the persons around him, and the location, but all memory of his recently deceased son and his insecure business situation was blotted out. The former memory shortly returned but the latter failed to do so. He never returned to business, and his memory of his business has never returned to him.

Here was a case where the problem in the life situation, rather insoluble, was associated with a blotting-out that has lasted for a period of years.

Other situations are also seen of a vague and shifting nature, where the contact and reaction are determined by special attitudes rather than response to a meaning of environment which would be shared by others. These are states of intensified day-dreams where the individual is sleep-walking, as it were, out of a setting of waking instead of out of a setting of sleep. There is, as a rule, an elaborate context of fairy-like fantasy, frequently with erotic content.

The patient was a married woman of 35 who had developed a tendency to wander vaguely away from her home on to the near-by hills, where she would walk slowly about for hours or sit motionless gazing before her. At these times it was always easy to get into contact with her, and she came back from her dreams quite promptly.

There were also peculiar pseudo-memories of elaborately organised sexual play preliminary to actual intercourse, exhibiting

a most florid and perverted ingenuity. These turned out to be quite unfounded in any way, but at the same time the patient was established credibly as a highly-charged erotic personality.

In this way, without any of the real distortions that would betoken derangement, the patient showed a constant ebb and flow of contact with the environment. The fundamental feature of this was that whenever the life situation offered distasteful meanings then there was a blurring and vagueness and wandering off into day-dream. The process, however, was always reversible, and this patient was, in fact, an extremely capable mother and housewife.

On one occasion she left the physician's office not well pleased with the need for action, and was seen to wander dreamily into a small park near by. After walking totteringly around she collapsed on a seat, where she lay huddled up. The picture was irresistibly that of an abandoned waif. She could see the physician's car, and he drove off in it. Once he was away, as she thought, and no longer a spectator potential or actual, she got up and walked briskly and steadily away.

Throughout the whole reaction of hysteria there has always run this stark question : Is it simulation or is it not ? The obvious advantages of hysteria as a solution of problems and the fairly general reversibility of the reaction, the tendency for spontaneous recovery when the problem has been in some way solved, the reduction or vanishing of the symptom when there are no spectators, and the occasional ready response to stern measures—all suggest that the symptoms are, if not deliberately assumed, yet to some extent inside the scope of the individual's control. On the other hand, the quite fixed nature of the symptoms in certain cases and the secondary disadvantages of them suggest that this is not so. One thing is rather probable, and it is that the situation cannot be reduced to such simple terms as the plain issue of simulation or non-simulation. The more scrutiny of human beings is carried out, the more evident does it become that we have little justification for the "either-or." Hysterical reactions may very well be on a "more or less" basis as far as simulation goes. The histrionic element does exist, and the acting of a part may sweep the individual away when the part is being acted or has begun to be acted for some very pressing personal reason. There is no similarity, however, between this and the deliberate work of the professional actor, and confusion will result if this concept is allowed to creep in.

On the other hand, the hysterical seizure, the classical

laughing, crying outburst so popular in the Victorian period, and the tantrum-like outbursts of excitement and rage are all subject to a change in the setting of the persons or the responsiveness of an audience. This alone insists upon consideration of these and other hysterical manifestations as being something which has a special significance for the patient's relationship with other humans, and affords an interesting clue to the condition generally, suggesting that this reaction is one where its appearance is due in some measure to special valuation by the individual of himself, readily leading to dramatisation.

CHAPTER XX

TREATMENT

"Medical psychology consists largely in the determination of the actual life-history and experiences and concrete reactions of the patient, and the gaining of a safe and sensible perspective, so as to adapt as far as possible the aims to the means and the means to the aims, and the personality to the situation and the situation to the personality. The facts which really count are as plain and tangible and concrete and controllable as those in any other part of the record and examination of the human being."—ADOLF MEYER, "Contributions to Medical and Biological Research, dedicated to Sir William Osler in Honour of his Seventieth Birthday, 12th July 1919, by his Pupils and Co-workers."

"We must strive to enlarge our command of action however modest."—MEYER.

If there is, indeed, a fundamental principle, it may well be found in the above quoted words. It is the first responsibility of all who deal with adaptive reduction to increase the capability of the individual to *do*. If this goal is steadily kept before the eyes of both patient and doctor and the insistence on actual performance constantly emphasised, it will be to the advantage of both. This will be more apparent still if the words of one of the most famous horse-trainers in regard to training young horses are remembered : "*Demander souvent, se contenter de peu*"—ask often for performance and be contented with small gains.

It should also be borne in mind that in the treatment of neuroses we are dealing with reactions of the total personality, and no approach that neglects any aspect of the individual is likely to be adequate. It has been said with truth that any procedure of any kind engaged in by the physician with a view to increasing adaptive power, "the command of action," is treatment.

Naturally, some sort of scheme must be followed, and it is obvious that before all else, the general physical condition of the patient must be most thoroughly investigated. Only in this way can the introduction be avoided of red herrings later on by the patient when he finds himself up against the

fact that he must, in part anyhow, help himself. As much of this examination as possible, apart from laboratory and other special investigations, should be done or repeated, at least, by the psychiatrist. In no other way can he keep control of the whole situation, nothing else will give him such a good start in inter-personal relationships with the patient, and it will lay on him responsibility for maintaining contact with internal medicine.

This having been done, it is equally essential to check the intelligence resources of the individual. In this way it may be established right at the outset that the patient is, for example, dull or even on the line of feeble-mindedness. This will dramatically alter the subsequent procedure and possibilities. On the other hand, mediocre intelligence will clearly call for rather special care in the method and actual working of any formulations that have to be made, for it is obviously necessary that the patient shall at least understand what is said by the physician. The use of other special tests, such as the Rorschach Ink-blot Test, may be indicated later in treatment.

At the same time attention has to be paid to the so-called mental status of the patient. Failure to do so occasionally results in underlying or more serious conditions accompanied by neurotic reactions being missed. The tests involving an estimate of the mental status are directed towards the individual's ability to appreciate the environment and to organise the knowledge of his environment gained by appreciation. One, therefore, has to make specific inquiry as to the contact with the surroundings, with persons, and with the passage of time by investigating the orientation of the individual in regard to these three features. In the same way memory has to be scrutinised in regard to the individual's capacity to recall events that have occurred in the distant past, at intermediate periods, and in the recent past. Attention to, and retention of, detail which must also be investigated are probably best tested by the simple tests, such as the ability to retain and reproduce a set of five unrelated facts, such as a name, an address, a colour, and a couple of objects. The standard calculation test of serially subtracting 7 from 100 is a severe and searching one, and those who use it should recognise the extent to which poorness in performance of this test may not be suggestive of failure of any mental capacity,

but merely indicate the need for further scrutiny, which may well be negative but not necessarily so.

Investigation of mental status is generally recognised to be incomplete without specific inquiry into the presence of those improbable ideas usually described as delusions, and those disturbances of sensation described as hallucinations. Nothing could be more improper than blunderingly to ask a patient about such symptoms. There are certain situations where an experienced physician may know very well that the direct question as to the existence of delusions and hallucinations may be asked without offence, but it is all too common for a potential rapport to be destroyed when a nervous subject is asked by the physician if he is hearing voices or if he has any strange ideas.

With these preliminary steps once taken, it must be stated with emphasis that now is the time when the patient must tell his story. He must be made to feel what is in any case very true, that the psychiatrist is a person whose special interest it is to hear all the patient can tell him about his adaptive problems and his life. The appreciation by the patient of this fact has as a rule the effect of producing some satisfaction, because rather commonly the experiences of the past may have developed the habit of hurriedly gabbling out an unclear formulation of his trouble to a series of listeners who did not want to listen but rather to preach themselves. Inevitably the recital tends to be torrential, and it is the task of the physician, while remaining a patient and attentive listener, to undertake some sorting out. This often requires a certain amount of firmness which must be carried along with tact and real kindness. If it is not done, harm will result from vain repetitions and omissions of important detail.

The sorting process first concerns itself with the formulation of the *complaint*. The question simply is, "What is wrong with you?" "Wherin are you unable to meet the calls to action resulting from the contact between yourself and your setting?" and "How does it affect you?" This must not be dropped until one can be reasonably sure that all the material has emerged that can be expected at the outset. Careful written notes must be made of the complaint, whatever else is noted in writing, and the physician must not allow his attention to be lured away meantime by the seductions of

other details of apparently dramatic value that may be proffered.

Here it must be understood and recognised that the patient is being invited to embark on the process of telling a stranger details of his life that he may never have expressed aloud or in writing to anyone. One value of having done the personality study on oneself and with controls is vastly to improve the sureness of touch here and reduce the chance of fussy over-tactfulness, or the reverse. At the same time it is fairly certain that there will be a good many details not told frankly at first. It is this elementary fact that has given rise to some aspects of the sometimes too widely accepted ideas of repression, rationalisation, and a dynamic unconscious. The fact is that some people are, at first anyhow, just "not telling." Again and again one hears, "But of course I didn't tell the doctor that." It is one of the tasks of the physician to remember and to overcome this wherever and whenever possible. What is generally described as repression is, as a rule, lack of confidence, at first anyhow, in the physician. The patient does not feel safe in letting the physician know certain things because, amongst other things, he is afraid that the physician may react to this in such a way as to make the patient's predicament even worse than it is. It is, of course, absolutely essential that a very considerable degree of confidence and trust should be created in the patient by the physician, and the capacity to create such trust depends on a number of obvious requirements.

First of all, it is necessary that the physician should have done the personality study in order that he may have a sound idea of the range and fluctuation of the normal, both of self and others. Secondly, the physician must be careful to guard his sincerity and his integrity. This is not such a simple matter as one might think. The desire to help may very well lead to over-optimistic formulations, and it is vitally important for the physician to recognise that he must strictly adhere all the time to formulations so expressive of what he really knows and thinks that he need not try to remember the terms he used but can depend upon it that he will say the same the next time, although perhaps in different words. This is a practical point of the very greatest importance. Thirdly, the physician must resolutely refrain from imposing his own

standards on the patient. Usually neurotic subjects suffer a great deal from robust criticism and pep talks of all kinds. Objurgations and exhortations are all too common. It should be that the physician discusses rather than criticises with the patient the latter's standards and sees what this will yield. Only in this way, of course, can the patient be got to utilise his own assets to the full. It is certain that he can never utilise anyone else's assets to meet his tasks, and therefore the same technique must be applied towards the standards.

The next task is to cover the ground of the first part of the personality study and obtain a full autobiographical story, filling in the details on the life chart (pp. 250-51), which forms certainly the most time-saving type of record. It seems better to lead straight into the history of the illness from the autobiography rather than to try for a formulation of the present illness as a separate entity. Actually, neurotic illnesses do not by their very nature have a sharp beginning : they are the product of an adaptive decline which only in time, and as a result of environmental changes, reaches noticeable or unmanageable proportions ; and often this loses its value by an attempt to treat the illness separately from the general process of living in terms of an "experiment of nature" and the process of subject organisation or individuation, but, anyhow, the making up of a personality for what it can *do*. Furthermore, it is as a rule just as well for the patient to see, if it is there to be seen, that the illness is the outcome of tendencies that have been unchecked, of uneconomic patterns of adaptation progressively growing less and less useful.

The rather full autobiography will inevitably show pointers to the various sections of the general survey of the personality (*q.v.*), which, however, should be carefully gone through. The data so gained, namely, (a) complaint, (b) autobiography, (c) general survey of the personality, can now be set alongside an objective account of the illness obtained from reliable relatives or friends or other observers. This enables a preliminary formulation to be made, and this should be carefully checked with the patient. At the same time it is important to make a similar formulation to those relatives who have a right to be in on the affair. This procedure brings at once an element of objectivity and plan into what may well have been rather inchoate and bewildering.

The next practical step is to make strict inquiry into the actual *doings* of the patient in regard to (a) work, (b) leisure, (c) relation to others. It is the command of action that is our goal, and one should in this connection, anyhow, restrict the inquiry to this alone.

From this point it is, as a rule, possible to see the lines of inquiry to be followed in the direction of more detailed and specific items in the special analysis of the Psychobiological Assets, as schematised in the main portion of the personality study. This may be called *distributive analysis*, and adds yet more detail to the story of the evolution of the adaptive failure or restriction.

One thus arrives at a situation where one is faced flatly with the need for assessing the modifiability of the environment and how far one would be justified in pressing for a modification, and also with the evaluation of the possibilities of modification of the way of adapting. What is to be controlled and what are the possibilities of control? In the light of evaluation of environment and personality assets and liabilities gained from the detailed personality study, can we mobilise the assets better? What data have we for weighing up accurately the extent to which the weight of the assets is really harnessed to the adaptive tasks?

While the investigation and evaluation is going on, the patient should not be allowed to lie fallow. Insistence must be made on performance, on *doing*, and no better text could be found than the one quoted earlier in regard to the training of horses. A patient suffering from anxiety was afraid to go out alone; while the personality study was going on she was also told that it would be quite satisfactory if her progress in going out was literally one step at a time per day. She was going out alone in a week.

Fundamentally the relationship between patient and physician is one where there is evaluation, understanding, and, above all, practical plans for control. It is for the patient to carry these plans out with persistence and determination, which it is the duty and responsibility of the physician to foster and help. It is interesting that in respect of neurotic reactions a rigidity and expectation of a 100 per cent. cure should be present, which is not so constantly found in regard to other illnesses, where, as a rule, there is a capacity to accept what is possible without insisting upon perfection.

Generally speaking, then, treatment is only likely to be effective if all the following points are given due weight : environmental modifiability and its justifiability; organisation of personality assets and liabilities and comprehension of these ; assumption of responsibility by the patient for determined effort and acceptance of small gains ; and an understanding of the sequence of development of the illness.

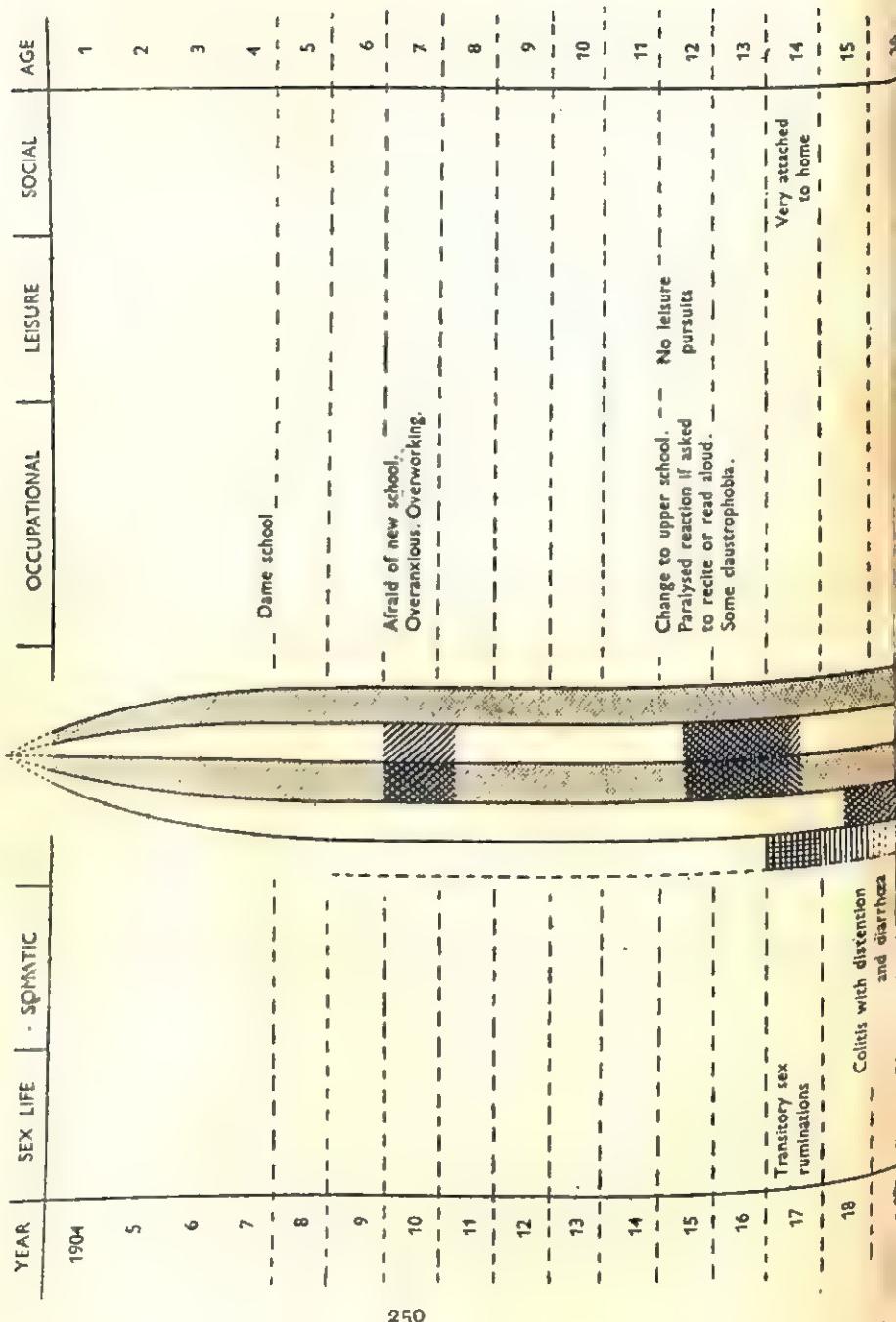
Naturally, the various types of reaction ask for slightly different ways of practical management.

The anxiety states, consisting as they do of reactions of the fear type, call for a programme of redevelopment of courage, by means of gradual re-approach to the situation of adaptive difficulty more or less a step at a time. Where there has been phobic transference, the attention must be given to the main issue. This, of course, must be carried along with the evaluation of the obscured or unconscious origins and deep emotional causes, as they may be discovered, of the situation. This may require special methods, so-called " free " association, hypnosis, narco-analysis, Rorschach. Certainly the best is confidence in the physician.

Much attention has been paid to violent re-living of the fear by so-called abreactive methods and with the use of anaesthetics. Biochemistry suggests that this may prove to be dangerous in the long run, although, on the other hand, the re-creation of the causal situation may give it a character of completion which it lacked originally, producing reverberation. This is an idea of respectable antiquity and belongs to the order of producing wherever possible in life the so-called "lived-out" experience. At the same time we must bear in mind that abreactive technique finds a much more ready success in regard to the circumscribed situations found in war, and is not so applicable to the long-standing evolution of neurotic reactions in civilian practice where there is often no possibility of making a sharp delimitation of the origins and scope of the trouble.

In regard to the so-called psychosomatic symptoms, it is important to preserve the patient's perspective. It is, in a way, perhaps unfortunate that the question of psychosomatic symptoms as a sort of clinical entity should ever have been developed, because these symptoms are nothing more or less than the clear-cut and long-recognised (even by the plain man)

LIFE CHART



20						
21	Began College course.	Immature	17			
22	Obsessive ruminations over studies.	Appearance	18			
23	Hospitalised for colitis	Overworking	19	No social outlets.		
24		Only at peace if at home.	20			
25			21			
26	Graduated. Teaching and research		22			
27	aggravate obsessional trend.		23	Social outlets Improved		
28	Restricted solitary work		24			
29	brings some relief.		25			
30	Collitis clearing up	Took up new post	26	Left home		
31			27	Came home		
32	Broke down in severe obsessional reaction with some depression.		28			
33	Unoccupied and under treatment		29			
34			30	Returned to work	Lecture and social	At
35			31	In an easier post.	Outlets improve	home
36			32	Obsessions almost absent.		
			33	Occasional claustrophobia.		
			34	Well and working		

physical reverberation of emotion. It is absolutely inescapable that people suffering from such reverberations should have their attention forcibly fixed upon them. Focusing treatment on the symptoms is, therefore, not only symptomatic treatment in its worst form, but merely recapitulates what the patient is already doing. In dealing with all such physical disturbances, one must relegate them to second place and insist on the patient's attention being directed to the setting in which the symptoms has developed, the autobiography, and not the symptom itself.

In the obsessional state, emphasis has to be laid on the philosophy of life in rather abstract ways and attention directed to the rôle of difficulties generally in sponsoring protective ritual. Vigorous attempts must be made to stop the ritual, for it seems as if this helps considerably in the determination of the attack on the problem and the uncovering of original or foundational attitudes.

The hypochondriacal reactions cannot be regarded lightly. It is only by the most thorough filling up of the satisfactions in the life of the individual that such preoccupations can be crowded out. It should be insisted upon that once the physical examination has been thoroughly carried out, there must be no going back for re-check. The patient will certainly try to insist on this, and on this point a stand must be made. These reactions do not on the whole respond to environmental manipulation.

The fatigue syndrome has to be carefully evaluated for the need to have the tendency to monotony countered, and also care taken to accept what is perhaps an unmodifiably low energy output. The neurasthenic subject has to be very thoroughly educated in, first of all, a better understanding of his own fatigue as a person function and as a function of general tissue resources. With reasonableness and goodwill a great deal may be done in the way of utilising the energy capabilities to the best instead of, as is usually the case, to the worst. Inevitably one has to counter the crude and widespread notion of an exhaustible and replaceable quantum of energy.

Hysterical subjects are usually particularly well able to understand and discuss their trend towards shutting off the unacceptable, and can by contrast, as a rule, get the hang of

a better type of reaction. The difficulty is of putting it into practice. The hysterical subject must be denied the pleasure of knowing that his reactions are affecting others, and hysterical behaviour must from this point of view be carefully ignored wherever possible.

The general physical condition of the neurotic must be guarded. It should be recognised that the behaviour of the whole organism incidental upon neurotic disturbances is evidently an affair of far-reaching physical consequence. Endocrinological research is unequivocal on the point that chronic emotional disturbances do, in fact, lead to quite definite physical disorders, and every attempt must therefore be made towards increasing the individual's general resistance and physical fitness.

It is the simple rules of health that here apply. The use of alcohol and tobacco must be kept within reasonable bounds. Both are often abused by anxious sufferers. In all probability there is a constant oxygen lack in anxious patients; their sighing, gasping, and irregular respiration is almost pathognomonic. Such people need "fresh air and exercise" in the traditional phrase, and attention to this simple point should not be omitted.

Nutrition is of the greatest importance. A good deal of attention should be directed to what the patient feels he wants to eat, because this shows variation under the stress of emotional disturbance. Some individuals seem to crave for proteins and others for fats and carbohydrates. It is not to be lightly dismissed that where the tissue fluids are being so greatly and constantly disturbed as they are in neurosis that the "wisdom of the body" may well sponsor attempts at regulation.

In particular, anxiety sufferers should be carefully helped in regard to sleep by the judicious use of sedatives. Of these the barbiturates are probably the best. They should not be taken regularly, and the anxiety sufferer who relaxes slowly and may lie awake for hours before falling asleep should be encouraged to develop relaxation techniques, of which deep breathing is the most important. The technique of getting sleep, if it may be called a technique, which is pursued by the undisturbed individual, is a process of "letting go." This encompasses the easy untroubled dropping off which occurs

typically in the "forty winks" episode, where the thinking flits around like a butterfly passing fleetingly from one notion to another without pausing for any time on any one. It is typical with the anxiety sufferer that on going to bed and preparing for sleep, instead of allowing his mind to float about from one topic to another he fixes on some idea, usually of an unpleasant nature, becomes preoccupied with it, and in a very short time is wide awake and restless. If this can be understood and scrutinised, anxious individuals may learn a better technique of, as it were, turning off the current of their thoughts when they go to bed, thus producing relaxation which leads to sleep. This may be done by inviting the subject to look at what he sees when he closes his eyes and to let the wavering patterns oust his thoughts, but any attempt to provoke sleep by deliberately distractive specific *ad hoc* methods will inevitably produce tension or, anyhow, attention, so that the counting of sheep and other dodges are bound to fail by their very nature. There is little doubt that such simple methods as eating a biscuit or two and the drinking of a warm beverage, not tea or coffee, is sometimes effective. Far more important than all, however, is the gradual development of a greater degree of generalised calm and courage, and this can only be done by a general review and evaluation of the whole scheme of life and the introduction wherever possible of achievement.

For diurnal tension, $\frac{1}{2}$ -grain doses of phenobarbitone are a generally satisfactory medication, and may be given two or three times a day; or, if this does not agree well, $2\frac{1}{2}$ -grain doses of sodium barbitone may be used. It is best to use only the sedatives with which one has experience. Even individual sedatives seem to vary in their action from person to person.

We aim at making the neurotic a going concern, socially, recreationally, and occupationally. This can never be done up to a 100 per cent., but it will be less likely of even modified success if we focus on an attitude of mind alone, or if we expect an unrealistically high level of cure in a set of disorders such as these. It should be frankly recognised that there is a large number of patients who can be helped to get along with the general business of their life on the basis of periodical visits to the psychiatrist for discussion and support. Failure to recognise this leads to an unjustifiable expectation of total

final cure on the one hand and, on the other hand, to admission of hopeless chronicity, neither of which is a proper attitude. We shall do best if we are contented with a little at a time, with perseverance and insistence on the supreme test which is, in the last analysis, movement, action, and performance. "We study," said Meyer, "what is doing." It should be the task of the physician to encourage the patient also in this study and to lead him onwards to the actual satisfaction of achievement, the final and only real test of the effective organisation of human personality—that infinitely variable experiment of nature, always open to observation.

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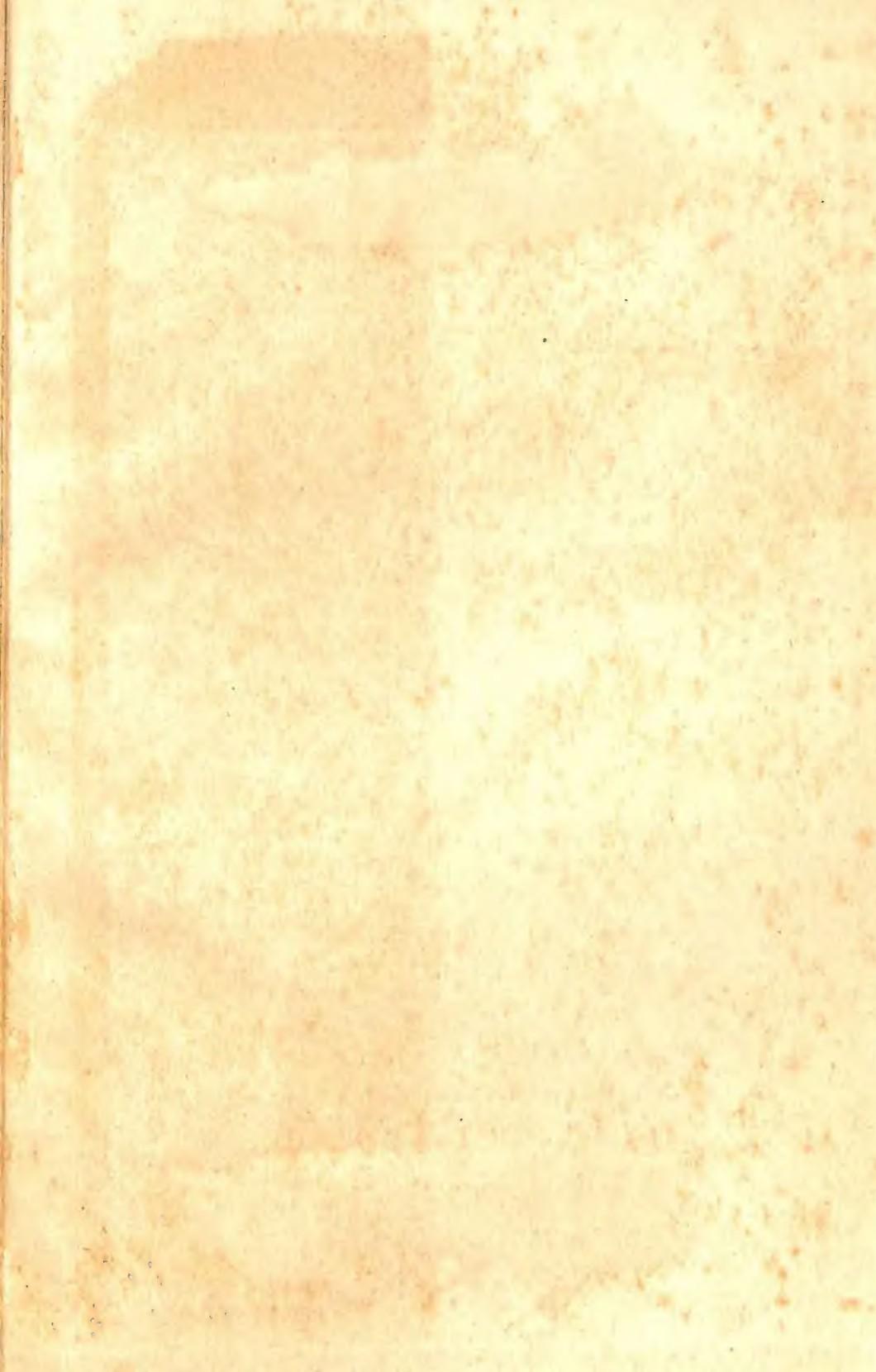
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